



## BUREAU OF AIR POLLUTION CONTROL

901 SOUTH STEWART STREET SUITE 4001

CARSON CITY, NEVADA 89701-5249

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**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I AIR QUALITY OPERATING PERMIT TO CONSTRUCT

**Issued to:** BARRICK GOLDSTRIKE MINES, INC. (HEREINAFTER REFERRED TO AS PERMITTEE)

**Mailing Address:** P.O. BOX 29; ELKO, NV 89803

**Physical Address:** NONE

**General Facility Location:** 27 MILES NORTH OF CARLIN, NEVADA OFF STATE ROUTE 766  
SECTIONS 1-4, T35N, R49E MDB&M  
SECTIONS 12-15, 21-28, AND 33-36, T36N, R49E MDB&M  
SECTIONS 7-9, 16-21, AND 28-32, T36N, R50E MDB&M  
HA61 – BOULDER FLAT AREA – UPPER PORTION (EUREKA COUNTY)  
NORTH 4,538.500 KM, EAST 552.100 KM; UTM ZONE 11 (NAD 83)

#### Emission Unit List:

##### **System 61 – Carbon Kiln and Pregnant Solution Tanks**

- S 2.004.1 Carbon Regeneration Kiln - Drum
- S 2.004.3 Pregnant Solution Tank A
- S 2.004.4 Pregnant Solution Tank B

##### **System 67 – Mercury Retorts 1 - 4**

- S 2.009 Mercury Retort 1
- S 2.010 Mercury Retort 2
- S 2.011 Mercury Retort 3
- S 2.341 Mercury Retort 4

##### **System 68 – Refinery Melting Furnaces and EW Cells**

- S 2.013 West Melting Furnace
- S 2.014 East Melting Furnace
- S 2.344 Electrowinning Cells

##### **System 117 – Regen 1 Feed System: Silo Loading and Discharge**

- S 2.325 Regen 1 Silo/Guppy (est. 95 Ton capacity) - Loading
- PF 1.501 Regen 1 Silo/Guppy (est. 95 Ton capacity) - Discharge

##### **System 118 – Regen 2 Feed System: Silo Loading and Discharge**

- S 2.326 Regen 2 Silo/Guppy (est. 88 Ton capacity) - Loading
- PF 1.502 Regen 2 Silo/Guppy (est. 88 Ton capacity) - Discharge

##### **System 119 – Copper Sulfate Feed System**

- PF 1.503 Bag Splitter and transfer to Mixing Tank



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**Emission Unit List (Continued)**

**System 120 – Flocculent Feed System**

- PF 1.504 Bag Splitter and transfer to Conveyor (Tails Thickener)
- PF 1.505 Bag Splitter and transfer to Conveyor (Clarifier)

**System 121 – Thiosulfate Feed System**

- PF 1.506 Bag Splitter and transfer to Mixing Tank

**System 122 – Water Softener Feed System**

- PF 1.507 Water Softener transfer to Mixing Tank 1
- PF 1.508 Water Softener transfer to Mixing Tank 2

**System 123 – Thiosulfate Cooling Tower**

- S 2.327 Thiosulfate Cooling Tower

**System 124 – Elution Area Cooling Tower**

- S 2.328 Elution Area Cooling Tower

**System 125A – Regeneration Boiler – Propane – REMOVED Month, Day 2013**

- S 2.329P ~~81.0 MMBtu Regeneration Boiler, Propane Combustion~~

**System 125B – Regeneration Boiler – Alternative Operating Scenario – Natural Gas – REMOVED Month, Day 2013**

- S 2.329NG ~~81.0 MMBtu Regeneration Boiler, Natural Gas Combustion~~

**System 126A – Tailings Thickener Emergency Generator – REMOVED Month, Day 2013**

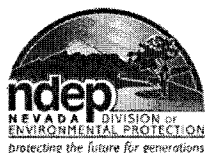
- S 2.330 ~~134 HP (100 kW) Emergency Diesel Generator~~

**System 126B – Water Treatment Emergency Generator – REMOVED Month, Day 2013**

- S 2.331 ~~671 HP (500 kW) Emergency Diesel Generator~~

**System 127 – Thiosulfate Recycle System**

- S 2.332.1 Thiosulfate Recycle Tank 1 (est. 60,847 gallon capacity)
- S 2.332.2 Thiosulfate Recycle Tank 2 (est. 60,847 gallon capacity)
- S 2.332.3 Thiosulfate Recycle Tank 3 (est. 60,847 gallon capacity)
- S 2.332.4 Thiosulfate Recycle Solution Tank (est. 25,926 gallon capacity)
- S 2.332.5 Regen 1 Storage Tank (est. 10,185 gallon capacity)
- S 2.332.6 Regen 2 Mixing Tank (est. 10,185 gallon capacity)
- S 2.332.7 Regen 2 Storage Tank (est. 6,481 gallon capacity)
- S 2.332.8 Regen 1 Mixing Tank (est. 10,185 gallon capacity)



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**Emission Unit List (Continued)**

**System 128 – Elution Circuit Process Tanks**

- S 2.333.1 Train A Resin Regeneration Tank (est. 10,185 gallon capacity)
- S 2.333.2 Train A Heat Recovery Tank (est. 11,455 gallon capacity)
- S 2.333.3 Train B Resin Regeneration Tank (est. 10,185 gallon capacity)
- S 2.333.4 Train B Heat Recovery Tank (est. 11,455 gallon capacity)
- S 2.333.5 Eluant Synthesis Feed Tank (est. 23,148 gallon capacity)
- S 2.333.6 Eluant Synthesis Tank (est. 23,148 gallon capacity)
- S 2.333.7 Regen 1 Day Tank (est. 21,032 gallon capacity)
- S 2.333.8 Regen 2 Day Tank (est. 31,217 gallon capacity)

**System 129 – Liquid Sulfur Loading and Storage**

- S 2.334 Truck Unloading Sulfur Tank (est. 9,584 gallon capacity)
- S 2.335 Sulfur Storage Tank (est. 102,799 gallon capacity)

**System 130 – Polysulfide (PS) Reactors**

- S 2.336 Polysulfide Reactor 1 (est. 7,464.45 gallon capacity)
- S 2.337 Polysulfide Reactor 2 (est. 7,464.45 gallon capacity)
- S 2.338 Polysulfide Reactor 3 (est. 7,464.45 gallon capacity)
- S 2.339 PS Day Tank 1 (est. 9,929 gallon capacity)
- S 2.340 PS Day Tank 2 (est. 9,929 gallon capacity)

**System 131 – Electrowinning Cells and Pregnant/Barren Solution Tanks**

- S 2.342.1 RIL Electrowinning Cells
- S 2.342.2 RIL Pregnant/Barren Solution Tank A
- S 2.342.3 RIL Pregnant/Barren solution Tank B

**System 132 – Soda Ash Feed System: Silo Loading and Discharge**

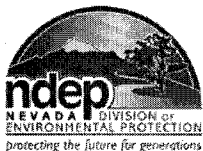
- S 2.345 Soda Ash Silo/Guppy (est. 146 Ton capacity) - Loading
- PF 1.509 Soda Ash Silo/Guppy (est. 146 Ton capacity) - Discharge

**System 141A – TKI Boiler (Natural Gas) – ADDED Month, Day 2013**

- S 2.361NG TKI Boiler (12 MMBtu, Natural Gas-fired)

**System 141B – TKI Boiler (Propane) – Alt. Scenario – ADDED Month, Day 2013**

- S 2.361P TKI Boiler (12 MMBtu, Propane-fired)



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**Emission Unit List (Continued)**

**System 142A – TS Regen Heater (Natural Gas) – ADDED Month, Day 2013**

S 2.362NG TS Regen Heater (7 MMBtu, Natural Gas-fired)

**System 142B – TS Regen Heater (Propane) – Alt. Scenario – ADDED Month, Day 2013**

S 2.362P TS Regen Heater (7 MMBtu, Propane-fired)

**System 143A – Resin Regen Heater 1 (Natural Gas) – ADDED Month, Day 2013**

S 2.363NG Resin Regen Heater 1 (5 MMBtu, Natural Gas-fired)

**System 143B – Resin Regen Heater 1 (Propane) – Alt. Scenario – ADDED Month, Day 2013**

S 2.363P Resin Regen Heater 1 (5 MMBtu, Propane-fired)

**System 144 – RIL Emergency Generator – ADDED Month, Day 2013**

S 2.364 RIL Emergency Generator (3,634 HP)





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## **Section I. General Conditions**

**A. Nevada Administrative Code (NAC) 445B.3365.2(c)**

**Severability**

Each of the conditions and requirements of this Operating Permit to Construct is severable and, if any are held invalid, the remaining conditions and requirements continue in effect.

**B. Nevada Revised Statute (NRS) 445B.470**

**Prohibited Acts**

***The Permittee*** shall not knowingly:

1. Violate any applicable provision, the terms or conditions of any Operating Permit to Construct or any provision for the filing of information;
2. Fail to pay any fee;
3. Falsify any material statement, representation or certification in any notice or report; or
4. Render inaccurate any monitoring device or method, required pursuant to the provisions of NRS 445B.100 to 445B.450, inclusive, or NRS 445B.470 to 445B.640, inclusive, or any regulation adopted pursuant to those provisions.

**C. NAC 445B.22013**

**Prohibited Discharge**

***The Permittee*** shall not cause or permit the discharge into the atmosphere from any stationary source of any hazardous air pollutant or toxic regulated air pollutant that threatens the health and safety of the general public, as determined by the Director.

**D. State Implementation Plan (SIP) NAC 445B.225**

**Prohibited Conduct: Concealment of Emissions**

***The Permittee*** shall not install, construct, or use any device that conceals any emission without reducing the total release of regulated air pollutants to the atmosphere.

**E. NAC 445B.3365.2(d)**

**Compliance/Noncompliance**

***The Permittee*** shall comply with all conditions of this Operating Permit to Construct. Any noncompliance constitutes a violation and is grounds for:

1. An action for noncompliance;
2. Modifying, revoking, reopening and revising, or terminating the Operating Permit to Construct; or
3. Denial of an application for a renewal of the Operating Permit to Construct.

**F. NAC 445B.273.1**

**Schedules for Compliance**

***The Permittee*** shall comply with NAC 445B.001 through 445B.3791, inclusive. Existing stationary sources are in compliance with those sections and may continue to operate under the provisions of their approved compliance schedules, which may be amended from time to time.

**G. NAC 445B.326.1**

**Assertion of Emergency as Affirmative Defense to Action for Noncompliance**

***The Permittee*** may assert an affirmative defense to an action brought for noncompliance with a technology-based emission limitation contained in the Operating Permit to Construct if the holder of the Operating Permit to Construct demonstrates through signed, contemporaneous operating logs or other relevant evidence that:

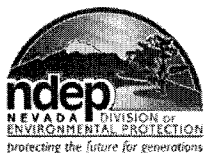
1. An emergency occurred as defined in NAC 445B.056, and the holder of the Operating Permit to Construct can identify the cause of the emergency;
2. The facility was being properly operated at the time of the emergency;
3. During the emergency, the holder of the Operating Permit to Construct took all reasonable steps to minimize excess emissions; and
4. The holder of the Operating Permit to Construct submitted notice of the emergency to the Director within 2 working days after the emergency. The notice must contain a description of the emergency, any steps taken to mitigate emissions, and any corrective actions taken to restore the normal operation of the facility.

**H. NAC 445B.3365.2(e)**

The need to halt or reduce activity to maintain compliance with the conditions of this Operating Permit to Construct is not a defense to noncompliance with any conditions of this Operating Permit to Construct.

**I. NAC 445B.3365.2(f)**

The Director may modify, revoke and reissue, reopen and revise, or terminate the Operating Permit to Construct for cause.



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**Section I. General Conditions (continued)**

**J. NAC 445B.3265**

Revocation and re-issuance

1. NAC 445B.3265.1. *The Permittee's* Operating Permit to Construct may be revoked if the control equipment is not operating.
2. NAC 445B.3265.2. *The Permittee's* Operating Permit to Construct may be revoked by the Director upon determination that there has been a violation of NAC 445B.001 to 445B.3689, inclusive, or the provisions of 40 CFR Part 52.21, or 40 CFR Part 60 or 61, Prevention of Significant Deterioration, New Source Performance Standards, and National Emission Standards for Hazardous Air Pollutants adopted by reference in NAC 445B.221.
3. NAC 445B.3265.3. -The revocation is effective 10 days after the service of a written notice, unless a hearing is requested.

**K. SIP 445.715**

Revocation

1. *The Permittee's* Operating Permit to Construct may be revoked if the control equipment is not operating.
2. *The Permittee's* Operating Permit to Construct can be revoked by the Director upon determination that there has been a violation of SIP 445.430 to 445.846, inclusive, or 40 CFR Parts 60 or 61, New Source Performance Standards and National Emissions Standards for Hazardous Air Pollutants.
3. The revocation is effective 10 days after the service of a written notice, and the revoked Operating Permit to Construct shall be surrendered immediately unless a hearing is requested.

**L. NAC 445B.3365.2(g)**

This Operating Permit to Construct does not convey any property rights or any exclusive privilege.

**M. NAC 445B.3365.2(h)**

*The Permittee* shall provide the Director, within a reasonable time, with any information that the Director requests in writing to determine whether cause exists for modifying, revoking and reissuing, reopening and revising or terminating this Operating Permit to Construct or to determine compliance with the conditions of this Operating Permit to Construct.

**N. NAC 445B.315.3.i**

*The Permittee* shall pay fees to the Bureau of Air Pollution Control in accordance with the provisions set forth in NAC 445B.327 and 445B.331.

**O. NAC 445B.3365.2(i)**

Right to Entry

*The Permittee* shall allow the Bureau of Air Pollution Control staff, upon the presentation of credentials, to:

1. Enter upon the premises of *the Permittee* where:
  - a. The stationary source is located;
  - b. Activity related to emissions is conducted; or
  - c. Records are kept pursuant to the conditions of this Operating Permit to Construct.
2. Have access to and copy, during normal business hours, any records that are kept pursuant to the conditions of this Operating Permit to Construct;
3. Inspect, at reasonable times, any facilities, practices, operations, or equipment, including any equipment for monitoring or controlling air pollution, that are regulated or required pursuant to this Operating Permit to Construct; and
4. Sample or monitor, at reasonable times, substances or parameters to determine compliance with the conditions of this Operating Permit to Construct or applicable requirements.

**P. NAC 445B.3365.2(j)**

A responsible official of *the Permittee* shall certify that, based on information and belief formed after reasonable inquiry, the statements made in any document required to be submitted by any condition of this Operating Permit to Construct are true, accurate and complete.



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**Section I. General Conditions (continued)**

**Q. NAC 445B.252 Testing and Sampling (*State Only Requirement*)**

1. To determine compliance with NAC 445B.001 to 445B.3689, inclusive, before the approval or the continuance of an operating permit or similar class of permits, the Director may either conduct or order the owner of any stationary source to conduct or have conducted such testing and sampling as the Director determines necessary. Testing and sampling or either of them must be conducted and the results submitted to the Director within 60 days after achieving the maximum rate of production at which the affected facility will be operated, but not later than 180 days after initial start-up of the facility and at such other times as may be required by the Director.
2. Tests of performance must be conducted and data reduced in accordance with the methods and procedures of the test contained in each applicable subsection of this section unless the Director:
  - a. Specifies or approves, in specific cases, the use of a reference method with minor changes in methodology;
  - b. Approves the use of an equivalent method;
  - c. Approves the use of an alternative method, the results of which the Director has determined to be adequate for indicating whether a specific stationary source is in compliance; or
  - d. Waives the requirement for tests of performance because the owner or operator of a stationary source has demonstrated by other means to the Director's satisfaction that the affected facility is in compliance with the standard.
3. Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of start-up, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard.
4. The owner or operator of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures.
5. Each test of performance must consist of at least three separate runs using the applicable method for that test. Each run must be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the runs apply. In the event of forced shutdown, failure of an irreplaceable portion of the sampling train, extreme meteorological conditions or other circumstances with less than three valid samples being obtained, compliance may be determined using the arithmetic mean of the results of the other two runs upon the Director's approval.
6. All testing and sampling will be performed in accordance with recognized methods and as specified by the Director.
7. The cost of all testing and sampling and the cost of all sampling holes, scaffolding, electric power and other pertinent allied facilities as may be required and specified in writing by the Director must be provided and paid for by the owner of the stationary source.
8. All information and analytical results of testing and sampling must be certified as to their truth and accuracy and as to their compliance with all provisions of these regulations, and copies of these results must be provided to the Director no later than 60 days after the testing or sampling, or both.
9. Notwithstanding the provisions of subsection 2, the Director shall not approve an alternative method or equivalent method to determine compliance with a standard or emission limitation contained in Part 60, 61 or 63 of Title 40 of the Code of Federal Regulations for:
  - a. An emission unit that is subject to a testing requirement pursuant to Part 60, 61 or 63 of Title 40 of the Code of Federal Regulations; or
  - b. An affected source.

**R. SIP 445B.252 Testing and sampling (*Federally Enforceable SIP Requirement*)**

1. To determine compliance with NAC 445B.001 to 445B.3497, inclusive, before the approval or the continuance of an operating permit or similar class of permits, the Director may either conduct or order the owner of any stationary source to conduct or have conducted such testing and sampling as the Director determines necessary. Testing and sampling or either of them must be conducted and the results submitted to the Director within 60 days after achieving the maximum rate of production at which the affected facility will be operated, but not later than 180 days after initial start-up of the facility and at such other times as may be required by the Director.
2. Tests of performance must be conducted and data reduced in accordance with the methods and procedures of the test contained in each applicable subsection of this section unless the Director:
  - a. Specifies or approves, in specific cases, the use of a reference method with minor changes in methodology; or
  - d. Waives the requirement for tests of performance because the owner or operator of a stationary source has demonstrated by other means to the Director's satisfaction that the affected facility is in compliance with the standard.
3. Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of start-up, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard.
4. The owner or operator of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures.
5. Each test of performance must consist of at least three separate runs using the applicable method for that test. Each run must be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the runs apply. In the event of forced shutdown, failure of an irreplaceable portion of the sampling



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**Section I. General Conditions (continued)**

train, extreme meteorological conditions or other circumstances with less than three valid samples being obtained, compliance may be determined using the arithmetic mean of the results of the other two runs upon the Director's approval.

7. The cost of all testing and sampling and the cost of all sampling holes, scaffolding, electric power and other pertinent allied facilities as may be required and specified in writing by the Director must be provided and paid for by the owner of the stationary source.
8. All information and analytical results of testing and sampling must be certified as to their truth and accuracy and as to their compliance with all provisions of these regulations, and copies of these results must be provided to the Director no later than 60 days after the testing or sampling, or both.
9. Notwithstanding the provisions of subsection 2, the Director shall not approve an alternative method or equivalent method to determine compliance with a standard or emission limitation contained in Part 60, 61 or 63 of Title 40 of the Code of Federal Regulations for:
  - a. An emission unit that is subject to a testing requirement pursuant to Part 60, 61 or 63 of Title 40 of the Code of Federal Regulations; or
  - b. An affected source.

**S. SIP NAC 445B.22067**

**Open Burning**

The open burning of any combustible refuse, waste, garbage, oil, or for any salvage operations, except as specifically exempted, is prohibited. Specific exemptions from open burning are described in NAC 445B.22067.2.

**T. SIP NAC 445B.22017**

**Maximum Opacity of Emissions**

1. Except as otherwise provided in this section and NAC 445B.2202 and 445B.22023, no owner or operator may cause or permit the discharge into the atmosphere from any emission unit, which is of an opacity equal to or greater than 20 percent. Opacity must be determined by one of the following methods:
  - a. If opacity is determined by a visual measurement, it must be determined as set forth in Reference Method 9 in Appendix A of 40 C.F.R. Part 60.
  - b. If a source uses a continuous monitoring system for the measurement of opacity, the data must be reduced to 6-minute averages as set forth in 40 C.F.R. §§ 60.13(h).
2. The provisions of this section and NAC 445B.2202 and 445B.22023 do not apply to that part of the opacity that consists of uncombined water. The burden of proof to establish the application of this exemption is upon the person seeking to come within the exemption.

**U. NAC 445B.22087**

**Odors**

**The Permittee** may not discharge or cause to be discharged, from any stationary source, any material or regulated air pollutant which is or tends to be offensive to the senses, injurious or detrimental to health and safety, or which in any way interferes with or prevents comfortable enjoyment of life or property.

**V. NAC 445B.319, 445B.342, 445B.3425 and 445B.344**

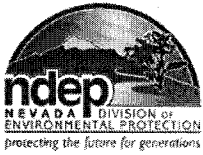
Any changes to this Operating Permit to Construct will comply with all provisions established under NAC 445B.319, 445B.342, 445B.3425 and 445B.344.

**W. SIP NAC 445B.22037**

**Fugitive Dust**

1. **The Permittee** may not cause or permit the handling, transporting, or storing of any material in a manner that allows or may allow controllable particulate matter to become airborne.
2. Except as otherwise provided in subsection 4, **the Permittee** may not cause or permit the construction, repair, demolition, or use of unpaved or untreated areas without first putting into effect an ongoing program using the best practical methods to prevent particulate matter from becoming airborne. As used in this subsection, "best practical methods" includes, but is not limited to, paving, chemical stabilization, watering, phased construction, and re-vegetation.
3. Except as provided in subsection 4, **the Permittee** may not disturb or cover 5 acres or more of land or its topsoil until **the Permittee** has obtained an Operating Permit for surface area disturbance to clear, excavate, or level the land or to deposit any foreign material to fill or cover the land.
4. The provisions of subsections 2 and 3 do not apply to:
  - a. Agricultural activities occurring on agricultural land; or
  - b. Surface disturbances authorized by a permit issued pursuant to NRS 519A.180 which occur on land which is not less than 5 acres or more than 20 acres.

\*\*\*\*\***End of General Conditions**\*\*\*\*\*



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**Section II. General Construction Conditions**

**A. NAC 445B.3366**

**Expiration**

This permit to construct expires if construction is not commenced within 18 months after the date of issuance thereof or construction of the facility is delayed for 18 months after initiated. The director may extend the 18 month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within eighteen months of the projected commencement date approved by the director.

**\*\*\*\*\*End of General Construction Conditions\*\*\*\*\***



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#### Section III. General Operating Conditions

A. NAC 445B.227

Facilities Operation

The Permittee may not:

1. Operate a stationary source of air pollution unless the control equipment for air pollution that is required by applicable requirements or conditions of this Operating Permit to Construct is installed and operating.
2. Disconnect, alter, modify or remove any of the control equipment for air pollution or modify any procedure required by an applicable requirement or condition of this Operating Permit to Construct.

B. NAC 445B.232

Excess Emissions

1. Scheduled maintenance or testing or scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive, must be approved in advance by the Director and performed during a time designated by the Director as being favorable for atmospheric ventilation.
2. Each owner or operator shall notify the Director of the proposed time and expected duration at least 30 days before any scheduled maintenance or testing which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive. The scheduled maintenance or testing must not be conducted unless the scheduled maintenance or testing is approved pursuant to subsection 1.
3. Each owner or operator shall notify the Director of the proposed time and expected duration at least 24 hours before any scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive. The scheduled repairs must not be conducted unless the scheduled repairs are approved pursuant to subsection 1.
4. Each owner or operator shall notify the Director of any excess emissions within 24 hours after any malfunction or upset of the process equipment or equipment for controlling pollution or during start-up or shutdown of that equipment.
5. Each owner or operator shall provide the Director, within 15 days after any malfunction, upset, start-up, shutdown or human error which results in excess emissions, sufficient information to enable the Director to determine the seriousness of the excess emissions. The information must include at least the following:
  - a. The identity of the stack or other point of emission, or both, where the excess emissions occurred.
  - b. The estimated magnitude of the excess emissions expressed in opacity or in the units of the applicable limitation on emission and the operating data and methods used in estimating the magnitude of the excess emissions.
  - c. The time and duration of the excess emissions.
  - d. The identity of the equipment causing the excess emissions.
  - e. If the excess emissions were the result of a malfunction, the steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunction.
  - f. The steps taken to limit the excess emissions.
  - g. Documentation that the equipment for controlling air pollution, process equipment or processes were at all times maintained and operated, to a maximum extent practicable, in a manner consistent with good practice for minimizing emissions.
6. Each owner or operator shall ensure that any notification or related information submitted to the Director pursuant to this section is provided in a format specified by the Director.

C. SIP 445.667

Excess Emissions: Scheduled Maintenance: Testing: Malfunction

1. Scheduled maintenance or testing approved by the Director or repairs which may result in excess emissions of air contaminants prohibited by SIP 445.430 to 445.846, inclusive, must be performed during a time designated by the Director as being favorable for atmospheric ventilation.
2. The Director shall be notified in writing on the time and expected duration at least 24 hours in advance of any scheduled maintenance or repairs which may result in excess emissions of air contaminants prohibited by SIP 445.430 to 445.846, inclusive.
3. The Director must be notified within 24 hours after any malfunction, breakdown or upset of process or pollution control equipment or during startup of such equipment. Phone (775) 687-9350.
4. The owner or operator of an affected facility shall provide the Director, within 15 days after any malfunction, breakdown, upset, startup or human error sufficient information to enable the Director to determine the seriousness of the excess emissions. The submission must include as a minimum:
  - a. The identity of the stack and/or other emission point where the excess emission occurred.
  - b. The estimated magnitude of the excess emissions expressed in opacity or in the units of the applicable emission limitation and the operating data and methods used in estimating the magnitude of the excess emissions.
  - c. The time and duration of the excess emissions.
  - d. The identity of the equipment causing the excess emissions.
  - e. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunctions.
  - f. The steps taken to limit the excess emissions.
  - g. Documentation that the air pollution control equipment, process equipment or processes were at all times maintained and operated, to a maximum extent practicable, in a manner consistent with good practice for minimizing emissions.



**BUREAU OF AIR POLLUTION CONTROL**

**Facility ID No. A0005**

**Permit No. AP1041-2805**

**CLASS I AIR QUALITY  
OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section III. General Operating Conditions (continued)**

D. SIP Article 2.5.4

Scheduled Maintenance, Testing, and Breakdown or Upset Federally Enforceable SIP Requirement

Breakdown or upset, determined by the Director to be unavoidable and not the result of careless or marginal operations, shall not be considered a violation of the regulations.

**\*\*\*\*\*End of General Operating Conditions\*\*\*\*\***



**BUREAU OF AIR POLLUTION CONTROL**

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**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section IV. General Monitoring, Recordkeeping, and Reporting Requirements**

- A. NAC 445B.3365.2(b)  
**The Permittee** shall retain records of all required monitoring data and supporting information for 5 years from the date of the sample collection, measurement, report or analysis. Supporting information includes, but is not limited to, all records regarding calibration and maintenance of the monitoring equipment and all original strip-chart recordings for continuous monitoring instrumentation.
- B. NAC 445B.3405.1(d)  
**The Permittee** will record:
1. Monitoring information required by the conditions of this Operating Permit to Construct including the date, the location and the time of the sampling or the measurements and the operating conditions at the time of the sampling or measurements; and
  2. The date on which the analyses were performed, the company that performed them, the analytical techniques that the company used, and the results of such analyses.
- C. NAC 445B.3365.2(h)  
**The Permittee** will submit yearly reports including, but not limited to, throughput, production, fuel consumption, hours of operation, and emissions. These reports will be submitted on the form provided by the Bureau of Air Pollution Control for all emission units/systems specified on the form. The completed form must be submitted to the Bureau of Air Pollution Control no later than March 1 annually for the preceding calendar year, unless otherwise approved by the Bureau of Air Pollution Control.
- D. SIP NAC 445B.265.1  
**Notification and Recordkeeping**  
**The Permittee** as the owner or operator subject to the provisions of NAC 445B.256 to 445B.267, inclusive, shall maintain records of the occurrence and duration of any start-up, shutdown or malfunction in the operation of an affected facility and any malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative.

**\*\*\*\*\*End of General Monitoring and Recordkeeping Conditions\*\*\*\*\***





## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

## Section V. Specific Operating Conditions

### A. Emission Units S2.004.1, S2.004.3, and S2.004.4

Location North 4,536.197 km, East 554.605 km, UTM (Zone 11)

#### System 61 – Carbon Kiln & Pregnant Solution Tanks

S	2.004.1	Carbon Regeneration Kiln - Drum
S	2.004.3	Pregnant Solution Tank A
S	2.004.4	Pregnant Solution Tank B

#### Descriptive Stack Parameters for Final Control

Stack Height (ft): 100

Stack Diameter (ft): 0.958

Stack Temperature (°F): 157.9

Exhaust Flow (DSCFM): 3,500

#### 1. Air Pollution Equipment

- a. Exhaust gas from S2.004.1, S2.004.3, and S2.004.4 shall be ducted to a control system, with 100% capture, consisting of the following control devices in series, listed in the order of placement in the exhaust system. S2.004.1, S2.004.3, and S2.004.4 share a common exhaust stack:

- (1) Wet Scrubber WS-001
- (2) Condensation Tower
- (3) 6-Ton Carbon Bed
- (4) 1.65-Ton Carbon Bed (Final Control)

#### 2. Operating Requirements (NAC 445B.3365.3)

##### Emission Limits NAC 445B.305

- a. On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.004.1, S2.004.3, and S2.004.4 the following pollutants in excess of the following specified limits:
- (1) The discharge of PM (particulate matter) to the atmosphere will not exceed 4.21 pounds per hour, nor more than 18.44 tons per year.
  - (2) The discharge of PM<sub>10</sub> (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 4.21 pounds per hour, nor more than 18.44 tons per year.
  - (3) The discharge of NO<sub>x</sub> (nitrogen oxides) to the atmosphere will not exceed 0.12 pound per hour, nor more than 0.53 ton per year.
  - (4) The discharge of CO (carbon monoxide) to the atmosphere will not exceed 1.18 pound per hour, nor more than 5.17 tons per year.
  - (5) The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 1.13 pound per hour, nor more than 4.95 tons per year.
  - (6) The discharge of mercury (Hg) to the atmosphere will not exceed the limits specified in Section VI of this Operating Permit-to-Construct (OPTC), and in accordance with the applicable requirements of 40 CFR Part 63, Subpart EEEEEEE for the *Gold Mine Ore Processing and Production Area Source Category* for carbon processes with retorts (40 CFR 63.11640 et. seq.).
  - (7) The opacity from the exhaust stack of S2.004.1, S2.004.3, and S2.004.4 will not equal or exceed 20 percent in accordance with NAC 445B.22017.

##### b. Operating Parameters NAC 445B.305

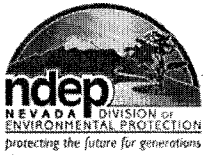
- (1) The maximum allowable throughput rate of stripped carbon in S2.004.1 shall not exceed 3.0 tons per any one-hour period.
- (2) The maximum allowable throughput rate of solution in S2.004.3 and S2.004.4, each, shall not exceed 250 gallons per minute (15,000 gallons per hour).
- (3) Hours  
S2.004.1, S2.004.3, and S2.004.4, each, may operate up to 8,760 hours per calendar year.

##### c. Monitoring and Recordkeeping NAC 445B.3365

- On and after the date of startup of S2.004.1, S2.004.3, and S2.004.4, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:
- (1) The calendar date of any required monitoring and recordkeeping.
  - (2) Monitor and record the daily weight, in tons, of stripped carbon processed in S2.004.1.
  - (3) Monitor and record the hours of operation for S2.004.1, S2.004.3, and S2.004.4 for each day of operation.
  - (4) Monitor and record the throughput rate (in gallons per minute) of solution for S2.004.3 and S2.004.4, each, once daily for each day of operation.
  - (5) The daily average hourly throughput (in tons per hour) of stripped carbon using the recordkeeping in A.2.c.(2) and A.2.c.(3) above.

##### d. Test Methods and Procedures NAC 445B.3365.3

The Permittee shall demonstrate compliance with the emission limits established in 40 CFR Part 63, Subpart EEEEEEE for the *Gold Mine Ore Processing and Production Area Source Category* for carbon processes with retorts (40 CFR 63.11640 et. seq.) by conducting performance tests, as specified in Section VI.A.4 of this OPTC, on the exhaust stack of S2.004.1, S2.004.3, and S2.004.4.



**BUREAU OF AIR POLLUTION CONTROL**

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**Permit No. AP1041-2805**

**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**A. Emission Units S2.004.1, S2.004.3, and S2.004.4 (continued)**

**3. Reporting (NAC 445B.3365)**

Within 60 days after completing the performance tests specified in Section VI of this OPTC, the Permittee shall furnish the Director a written report of the results of the performance tests. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**4. Application for a Part 70 Air Quality Operating Permit**

If you (Permittee) own or operate a source subject to 40 CFR Part 63, Subpart EEEEEEE, you must have or must obtain a permit under 40 CFR Part 70 (40 CFR 63.11640(d)).



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### B. Emission Units S2.009 – S2.011 and S2.341

Location North 4,536.176 km, East 554.526 km, UTM (Zone 11)

###### System 67 – Mercury Retorts 1 – 4

S	2.009	Mercury Retort 1 (EnviroCare Systems, Inc.)
S	2.010	Mercury Retort 2 (EnviroCare Systems, Inc.)
S	2.011	Mercury Retort 3 (EnviroCare Systems, Inc.)
S	2.341	Mercury Retort 4

###### Descriptive Stack Parameters for Carbon Filter (Final Control)

Stack Height (ft): 85  
Stack Diameter (ft): 1.0  
Stack Temperature (°F): 190  
Exhaust Flow (ACFM): 742  
Exhaust Flow (DSCFM): 400

##### 1. Air Pollution Equipment

- Exhaust gas from S2.009 – S2.011 and S2.341 shall be ducted to a control system, with 100% capture, consisting of the following control devices in series, listed in the order of placement in the exhaust system. S2.009 – S2.011 and S2.341 share a common exhaust stack:
  - Emissions from S2.009 – S2.011 and S2.341, each, shall have an initial control device consisting of a Basic pH Contact Condenser.
  - Exhaust gas from the Basic pH Contact Condensers for S2.009 – S2.011 and S2.341 shall be combined and ducted to a control system, with 100% capture, consisting of the following control devices:
    - SO<sub>2</sub> Scrubber
    - Ionex Carbon Filter (Final Control)

##### 2. Construction Requirements

Notification and Recordkeeping (NAC 445B.250)

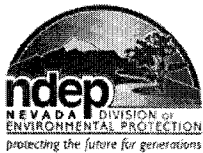
The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.341 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.341, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.341, postmarked within 15 days after such date (NAC 445B.250.3).

##### 3. Operating Requirements (NAC 445B.3365.3)

Emission Limits NAC 445B.305

- On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the final exhaust stack of S2.009 – S2.011 and S2.341 the following pollutants in excess of the following specified limits:
  - The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 1.94 pounds per hour, nor more than 8.50 tons per year.
  - The discharge of mercury (Hg) to the atmosphere will not exceed the limits specified in Section VI of this Operating Permit-to-Construct (OPTC), and in accordance with the applicable requirements of 40 CFR Part 63, Subpart EEEEEEE for the Gold Mine Ore Processing and Production Area Source Category for carbon processes with retorts (40 CFR 63.11640 et. seq.).
  - The opacity from the final exhaust stack of S2.009 – S2.011 and S2.341 will not equal or exceed 20 percent in accordance with NAC 445B.22017.



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

##### **B. Emission Units S2.009 – S2.011 and S2.341 (continued)**

###### **3. Operating Requirements (continued)**

###### **b. Operating Parameters NAC 445B.305**

- (1) The maximum allowable throughput rate of precious metal-bearing material in **S2.009 – S2.011 and S2.341**, combined, shall not exceed 2.4 tons per batch.
- (2) Hours  
**S2.009 – S2.011 and S2.341**, each, may operate up to 8,760 hours per calendar year.

###### **c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of **S2.009 – S2.011 and S2.341**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the weight, in tons, of precious metal-bearing material processed in **S2.009 – S2.011 and S2.341**, for each batch.
- (3) Monitor and record the hours of operation for **S2.009 – S2.011 and S2.341** for each batch.
- (4) Monitor and record the liquid pH and flow rate of the Basic pH Contact Condensers once daily for each day of operation.
- (5) Monitor and record the SO<sub>2</sub> scrubber liquor pH and liquor flow rate once daily for each day of operation.

###### **d. Test Methods and Procedures (NAC 445B.3365.3)**

The Permittee shall demonstrate compliance with the emission limits established in B.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.009 – S2.011 and S2.341**:

- (1) Within 60 days after achieving the maximum production rate at which **S2.009 – S2.011 and S2.341** will be operated, but no later than 180 days after initial startup of **S2.341**, conduct a Method 6C performance test for SO<sub>2</sub>, in accordance with 40 CFR Part 60, Appendix A.
- (2) Permittee will measure the batch weight, in tons, of precious metal-bearing material processed in **S2.009 – S2.011 and S2.341** during each test run.
- (3) Permittee will measure the Basic pH Contact Condenser operating parameters (as set forth in B.3.c.(4) above) once during each run of the testing described in B.3.d.(1) above.
- (4) The Permittee shall demonstrate compliance with the emission limits established in 40 CFR Part 63, Subpart EEEEEEE for the *Gold Mine Ore Processing and Production Area Source Category* for carbon processes with retorts (40 CFR 63.11640 et. seq.) by conducting performance tests, as specified in Section VI.A.4 of this OPTC, on the exhaust stack of **S2.009 – S2.011 and S2.341**.
- (5) Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).
- (6) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (7) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.



## BUREAU OF AIR POLLUTION CONTROL

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# CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

## Section V. Specific Operating Conditions (continued)

### B. Emission Units S2.009 – S2.011 and S2.341 (continued)

#### 4. Reporting (NAC 445B.3365)

Within 60 days after completing the performance tests required in B.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the performance tests. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

#### 5. Application for a Part 70 Air Quality Operating Permit

If you (Permittee) own or operate a source subject to 40 CFR Part 63, Subpart EEEEEEE, you must have or must obtain a permit under 40 CFR Part 70 (40 CFR 63.11640(d)).



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### C. Emission Units S2.013, S2.014, and S2.344

Location North 4,536.191 km, East 554.549 km, UTM (Zone 11)

##### System 68 – Refinery Melting Furnaces and EW Cells

S	2.013	West Melting Furnace (Inductotherm), Model# 75kW PowerTrak; SN 87-77730-246-11
S	2.014	East Melting Furnace (Inductotherm), Model# 125kW PowerTrak; SN 91-50165-246-11
S	2.344	Electrowinning Cells

##### Descriptive Stack Parameters for Carbon Adsorber (Final Control)

Stack Height (ft): 88  
Stack Diameter (ft): 1.67  
Stack Temperature (°F): 117.5  
Exhaust Flow (DSCFM): 9,100

##### 1. Air Pollution Equipment

- a. Exhaust gas from S2.013, S2.014, and S2.344 shall be ducted to a control system consisting of the following control devices. S2.013, S2.014, and S2.344 share a common final exhaust stack:
  - (1) Combined emissions from S2.013 and S2.014 shall be ducted to a control system, with 100% capture, consisting of the following control devices in series:
    - (i) Baghouse
    - (ii) SO<sub>2</sub> Scrubber
  - (2) Exhaust gas from the SO<sub>2</sub> Scrubber control for S2.013 and S2.014 shall be combined with the emissions from S2.344 and ducted to a control system, with 100% capture, consisting of a Carbon Filter (Final Control).

##### 2. Operating Requirements NAC 445B.3365.3

##### Emission Limits NAC 445B.305

- a. The Permittee will not discharge or cause the discharge into the atmosphere from the final exhaust stack of S2.013, S2.014, and S2.344 the following pollutants in excess of the following specified limits:
  - (1) The discharge of PM (particulate matter) to the atmosphere will not exceed 2.80 pounds per hour, nor more than 3.06 tons per year, combined.
  - (2) The discharge of PM<sub>10</sub> (particulate matter less than 10 microns) to the atmosphere will not exceed 2.80 pounds per hour, nor more than 3.06 tons per year, combined.
  - (3) The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 0.17 pound per hour, nor more than 0.74 ton per year.
  - (4) The discharge of mercury (Hg) to the atmosphere will not exceed the limits specified in Section VI of this Operating Permit-to-Construct (OPTC), and in accordance with the applicable requirements of 40 CFR Part 63, Subpart EEEEEEE for the Gold Mine Ore Processing and Production Area Source Category for carbon processes with retorts (40 CFR 63.11640 et. seq.).
  - (5) The opacity from the final exhaust stack of S2.013, S2.014, and S2.344 will not equal or exceed 20 percent in accordance with NAC 445B.22017.
- b. Operating Parameters NAC 445B.305
  - (1) The maximum allowable throughput rate of retorted precious metal-bearing material in S2.013 and S2.014, each, shall not exceed 0.60 tons per batch.
  - (2) The maximum allowable throughput rate of solution in S2.344 shall not exceed 35 gallons per minute (2,100 gallons per hour).
  - (3) The pressure drop across the inlet and outlet of the baghouse control for S2.013 and S2.014 will be maintained between 3 and 8 inches of water gage.
  - (4) Hours  
S2.013, S2.014, and S2.344, each, may operate up to 8,760 hours per calendar year.



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**C. Emission Units S2.013, S2.014, and S2.344 (continued)**

**2. Operating Requirements NAC 445B.3365.3 (continued)**

**c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of **S2.013, S2.014, and S2.344**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the weight, in tons, of retorted precious metal-bearing material processed in **S2.013 and S2.014**, for each batch.
- (3) Monitor and record the hours of operation for **S2.013, S2.014, and S2.344**, each, for each day of operation.
- (4) Monitor and record the throughput rate (in gallons per minute) of solution for **S2.344** once daily for each day of operation.
- (5) Monitor and record the pressure drop (in inches of water gage) across the inlet and outlet of the baghouse control for **S2.013 and S2.014** once daily for each day of operation.
- (6) Monitor and record the wet SO<sub>2</sub> scrubber liquor pH and flow rate once daily for each day of operation (Wet Scrubber Only), or monitor and record the pressure drop, alkaline reagent concentration, and reagent injection rate (SO<sub>2</sub> Dry Scrubber Only) once daily for each day of operation.
- (7) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust stack of vent of **S2.013, S2.014, and S2.344** on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.

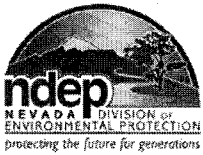
**d. Test Methods and Procedures (NAC 445B.3365.3)**

The Permittee shall demonstrate compliance with the emission limits established in C.2.a. of this section by conducting the following performance tests on the exhaust stack of **S2.013, S2.014, and S2.344**:

- (1) Within 180 days after the date of initial startup of the System 128 Elution Circuit Process Tanks, the Permittee will conduct a Method 6C performance test for SO<sub>2</sub> on the exhaust stack of **S2.013, S2.014, and S2.344** in accordance with 40 CFR Part 60, Appendix A.
- (2) Permittee will measure the batch weight, in tons, of retorted precious metal-bearing material processed in **S2.013 and S2.014** during each test run.
- (3) Permittee will measure the SO<sub>2</sub> scrubber operating parameters (as set forth in C.2.c.(6) above) once during each run of the testing described in C.2.d.(2) above.
- (4) The Permittee shall demonstrate compliance with the emission limits established in 40 CFR Part 63, Subpart EEEEEEE for the *Gold Mine Ore Processing and Production Area Source Category* for carbon processes with retorts (40 CFR 63.11640 et. seq.) by conducting performance tests, as specified in Section VI.A.4 of this OPTC, on the exhaust stack of **S2.013, S2.014, and S2.344**.
- (5) Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).
- (6) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (7) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

**3. Reporting (NAC 445B.3365)**

Within 60 days after completing the performance tests required in C.2.d. of this section, the Permittee shall furnish the Director a written report of the results of the performance tests. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).



**BUREAU OF AIR POLLUTION CONTROL**

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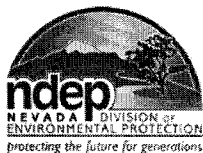
**Section V. Specific Operating Conditions (continued)**

**C. Emission Units S2.013, S2.014, and S2.344 (continued)**

**4. Application for a Part 70 Air Quality Operating Permit**

If you (Permittee) own or operate a source subject to 40 CFR Part 63, Subpart EEEEEEE, you must have or must obtain a permit under 40 CFR Part 70 (40 CFR 63.11640(d)).





## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

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#### Section V. Specific Operating Conditions (continued)

##### D. Emission Units S2.325 and PF1.501

Location North 4,536.395 km, East 554.477 km, UTM (Zone 11)

System 117 – Regen 1 Feed System: Silo Loading and Discharge		
S	2.325	Regen 1 Silo/Guppy (est. 95 ton capacity) - Loading
PF	1.501	Regen 1 Silo/Guppy (est. 95 ton capacity) - Discharge

##### Descriptive Stack Parameters for S2.325

Stack Height (ft): 55

Stack Diameter (ft): 0.67

Stack Temperature (°F): Ambient

Exhaust Flow (DSCFM): 600

##### 1. Air Pollution Equipment

- Emissions from S2.325 shall be controlled by a Vent Filter.
- PF1.501 has no add-on controls.

##### 2. Construction Requirements

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.325 and PF1.501 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.325 and PF1.501, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.325 and PF1.501, postmarked within 15 days after such date (NAC 445B.250.3).

##### 3. Operating Requirements (NAC 445B.3365.3)

###### a. Emission Limits NAC 445B.305

On and after the date of startup of S2.325 and PF1.501, the Permittee will not discharge or cause the discharge into the atmosphere from S2.325 and PF1.501 the following pollutants in excess of the following specified limits:

- (i) The discharge of PM to the atmosphere from S2.325 will not exceed 0.04 pound per hour, nor more than 0.01 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from S2.325 will not exceed 0.014 pound per hour, nor more than 0.002 ton per year.
- (i) The discharge of PM to the atmosphere from PF1.501 will not exceed 0.096 pound per hour, nor more than 0.03 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from PF1.501 will not exceed 0.056 pound per hour, nor more than 0.02 ton per year.
- The opacity from S2.325 and PF1.501, each, will not equal or exceed 20 percent in accordance with NAC 445B.22017.

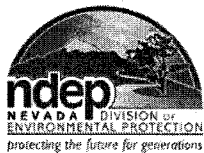
###### b. Operating Parameters NAC 445B.305

- The maximum allowable throughput for S2.325 will not exceed 40 tons of Regen 1 per any one-hour period.
- The maximum allowable throughput for PF1.501 will not exceed 20 tons of Regen 1 per any one-hour period.
- The total annual throughput for S2.325 and PF1.501 will not exceed 13,500 tons of Regen 1 per 12-month rolling period, each.
- Hours  
S2.325 and PF1.501 may operate up to 8,760 hours per calendar year, each.

###### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.325 and PF1.501, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- The calendar date of any required monitoring and recordkeeping.
- Monitor and record the daily amount of Regen 1 loaded into S2.325 and the duration of the loading each day loading occurs.
- Monitor and record the amount of Regen 1 discharged from PF1.501 on a monthly basis. The amount of Regen 1 will be based on purchasing receipts and measurements of the level of Regen 1 in the silo at the beginning and end of the month.
- Monitor and record the hours of operation for PF1.501 for each day of operation.
- Monitor and record the average loading and discharge rate (in tons per hour) of Regen 1 using the monitoring in D.3.c.(2), D.3.c.(3), and D.3.c.(4) above.
- Monitor and record the throughput (in tons) of Regen 1 for S2.325 and PF1.501, each, on a monthly basis.
- On a monthly basis, monitor and record the 12-month rolling throughput (in tons per 12-month rolling period) of Regen 1 for S2.325 and PF1.501, each, using the monthly recordkeeping in D.3.c.(6) above.
- Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of S2.325 and on the discharge PF1.501 on a monthly basis while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee will conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.



**BUREAU OF AIR POLLUTION CONTROL**

**Facility ID No. A0005**

**Permit No. AP1041-2805**

**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**D. Emission Units S2.325 and PF1.501 (continued)**

**3. Operating Requirements (NAC 445B.3365.3)(continued)**

**d. Performance Test Methods and Procedures NAC 445B.3365**

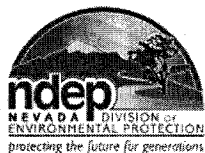
- (1) Within 60 days after achieving the maximum production rate at which **S2.325** and **PF1.501** will be operated, but no later than 180 days after initial startup of **S2.325** and **PF1.501**, conduct and record a Method 9 visible emissions test on **S2.325** and **PF1.501** while operating. The total time of observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). The Method 9 tests shall be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A, Method 9.
- (2) The Permittee shall provide notification of the anticipated date for conducting the initial opacity observations. The notification shall be postmarked not less than 30 days prior to such date (NAC 445B.252).

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial opacity observations required in D.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**E. Emission Units S2.326 and PF1.502**

Location North 4,536.394 km, East 554.480 km, UTM (Zone 11)

**System 118 – Regen 2 Feed System: Silo Loading and Discharge**

S	2.326	Regen 2 Silo/Guppy (est. 88 ton capacity) - Loading
PF	1.502	Regen 2 Silo/Guppy (est. 88 ton capacity) - Discharge

**Descriptive Stack Parameters for S2.326**

Stack Height (ft): 55

Stack Diameter (ft): 0.67

Stack Temperature (°F): Ambient

Exhaust Flow (DSCFM): 600

**1. Air Pollution Equipment**

- a. Emissions from S2.326 shall be controlled by a Vent Filter.
- b. PF1.502 has no add-on controls.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of S2.326 and PF1.502 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- b. A notification of the anticipated date of initial startup of S2.326 and PF1.502, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- c. A notification of the actual date of initial startup of S2.326 and PF1.502, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements (NAC 445B.3365.3)**

**a. Emission Limits NAC 445B.305**

On and after the date of startup of S2.326 and PF1.502, the Permittee will not discharge or cause the discharge into the atmosphere from S2.326 and PF1.502 the following pollutants in excess of the following specified limits:

- (1) (i) The discharge of PM to the atmosphere from S2.326 will not exceed 0.04 pound per hour, nor more than 0.01 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from S2.326 will not exceed 0.014 pound per hour, nor more than 0.002 ton per year.
- (2) (i) The discharge of PM to the atmosphere from PF1.502 will not exceed 0.096 pound per hour, nor more than 0.03 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from PF1.502 will not exceed 0.056 pound per hour, nor more than 0.02 ton per year.
- (3) The opacity from S2.326 and PF1.502, each, will not equal or exceed 20 percent in accordance with NAC 445B.22017.

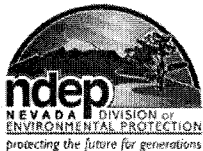
**b. Operating Parameters NAC 445B.305**

- (1) The maximum allowable throughput for S2.326 will not exceed 40 tons of Regen 2 per any one-hour period.
- (2) The maximum allowable throughput for PF1.502 will not exceed 20 tons of Regen 2 per any one-hour period.
- (3) The total annual throughput for S2.326 and PF1.502 will not exceed 12,600 tons of Regen 2 per 12-month rolling period, each.
- (4) Hours  
S2.326 and PF1.502 may operate up to 8,760 hours per calendar year, each.

**c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of S2.326 and PF1.502, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the amount of Regen 2 loaded into S2.326 and the duration of the loading each day loading occurs.
- (3) Monitor and record the amount of Regen 2 discharged from PF1.502 on a monthly basis. The amount of Regen 2 will be based on purchasing receipts and measurements of the level of Regen 2 in the silo at the beginning and end of the month.
- (4) Monitor and record the hours of operation for PF1.502 for each day of operation.
- (5) Monitor and record the average loading and discharge rate (in tons per hour) of Regen 2 using the monitoring in E.3.c.(2), E.3.c.(3), and E.3.c.(4) above.
- (6) Monitor and record the throughput (in tons) of Regen 2 for S2.326 and PF1.502, each, on a monthly basis.
- (7) On a monthly basis, monitor and record the 12-month rolling throughput (in tons per 12-month rolling period) of Regen 2 for S2.326 and PF1.502, each, using the monthly recordkeeping in E.3.c.(6) above.
- (8) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of S2.326 and on the discharge PF1.502 on a monthly basis while operating. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.



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**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**E. Emission Units S2.326 and PF1.502 (continued)**

**3. Operating Requirements (NAC 445B.3365.3)(continued)**

**d. Performance Test Methods and Procedures NAC 445B.3365**

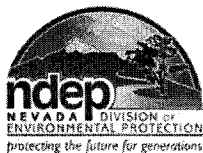
- (1) Within 60 days after achieving the maximum production rate at which S2.326 and PF1.502 will be operated, but no later than 180 days after initial startup of S2.326 and PF1.502, conduct and record a Method 9 visible emissions test on S2.326 and PF1.502 while operating. The total time of observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). The Method 9 tests shall be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A, Method 9.
- (2) The Permittee shall provide notification of the anticipated date for conducting the initial opacity observations. The notification shall be postmarked not less than 30 days prior to such date (NAC 445B.252).

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial opacity observations required in E.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**F. Emission Unit PF1.503**

Location North 4,536.307 km, East 554.548 km, UTM (Zone 11)

**System 119 – Copper Sulfate Feed System**

PF 1.503 Bag Splitter and transfer to Mixing Tank

**1. Air Pollution Equipment**

- a. Emissions from PF1.503 shall be controlled by an enclosure.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of PF1.503 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- b. A notification of the anticipated date of initial startup of PF1.503, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- c. A notification of the actual date of initial startup of PF1.503, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements (NAC 445B.3365.3)**

a. Emission Limits NAC 445B.305

On and after the date of startup of PF1.503, the Permittee will not discharge or cause the discharge into the atmosphere from PF1.503 the following pollutants in excess of the following specified limits:

- (1) The discharge of PM to the atmosphere from PF1.503 will not exceed 0.04 pound per hour, nor more than 0.002 ton per year.
- (2) The discharge of PM<sub>10</sub> to the atmosphere from PF1.503 will not exceed 0.01 pound per hour, nor more than 0.001 ton per year.
- (3) The opacity from PF1.503 will not equal or exceed 20 percent in accordance with NAC 445B.22017.

b. Operating Parameters NAC 445B.305

- (1) The maximum allowable throughput for PF1.503 will not exceed 2 tons of copper sulfate per any one-hour period.
- (2) The total annual throughput for PF1.503 will not exceed 250 tons of per 12-month rolling period.
- (3) Hours  
PF1.503 may operate up to 8,760 hours per calendar year.

c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of PF1.503, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily throughput of copper sulfate for PF1.503.
- (3) Monitor and record the hours of operation for PF1.503 for each day of operation.
- (4) Monitor and record the daily average throughput rate of copper sulfate for PF1.503 (in tons per hour) using the monitoring in F.3.c.(2) and F.3.c.(3) above.
- (5) Monitor and record the throughput (in tons) of copper sulfate for PF1.503 on a monthly basis.
- (6) On a monthly basis, monitor and record the 12-month rolling throughput (in tons per 12-month rolling period) of copper sulfate for PF1.503 using the monthly recordkeeping in F.3.c.(5) above.
- (7) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the structure that houses PF1.503 on a monthly basis while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.

d. Performance Test Methods and Procedures NAC 445B.3365

- (1) Within 60 days after achieving the maximum production rate at which PF1.503 will be operated, but no later than 180 days after initial startup of PF1.503, the Permittee will conduct and record a Method 22 visible emissions test on the structure that houses PF1.503 while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). The Method 9 tests shall be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A, Method 9.
- (2) The Permittee shall provide notification of the anticipated date for conducting the initial opacity observations. The notification shall be postmarked not less than 30 days prior to such date (NAC 445B.252).



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**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**F. Emission Unit PF1.503 (continued)**

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial visible emissions observations required in F.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the visible emissions observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**G. Emission Units PF1.504 and PF1.505**

PF1.504 Location North 4,537.699 km, East 555.566 km, UTM (Zone 11)

PF1.505 Location North 4,536.395 km, East 554.483 km, UTM (Zone 11)

**System 120 – Flocculent Feed System**

PF 1.504	Bag Splitter and transfer to Conveyor (Tails Thickener)
PF 1.505	Bag Splitter and transfer to Conveyor (Clarifier)

**1. Air Pollution Equipment**

- a. PF1.504 and PF1.505, each, shall be controlled by an enclosure.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of PF1.504 and PF1.505 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- b. A notification of the anticipated date of initial startup of PF1.504 and PF1.505, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- c. A notification of the actual date of initial startup of PF1.504 and PF1.505, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements (NAC 445B.3365.3)**

a. Emission Limits NAC 445B.305

On and after the date of startup of PF1.504 and PF1.505, the Permittee will not discharge or cause the discharge into the atmosphere from PF1.504 and PF1.505 the following pollutants in excess of the following specified limits:

- (1) (i) The discharge of PM to the atmosphere from PF1.504 will not exceed 0.018 pound per hour, nor more than 0.0028 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from PF1.504 will not exceed 0.0055 pound per hour, nor more than 0.00083 ton per year.
- (2) (i) The discharge of PM to the atmosphere from PF1.505 will not exceed 0.018 pound per hour, nor more than 0.00046 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from PF1.505 will not exceed 0.0055 pound per hour, nor more than 0.00014 ton per year.
- (3) The opacity from PF1.504 and PF1.505, each, will not equal or exceed 20 percent in accordance with NAC 445B.22017.

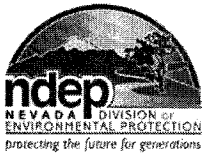
b. Operating Parameters NAC 445B.305

- (1) The maximum allowable throughput for PF1.504 will not exceed 1.0 tons of flocculent per any one-hour period, nor more than 300 tons per 12-month rolling period.
- (2) The maximum allowable throughput for PF1.505 will not exceed 1.0 tons of flocculent per any one-hour period, nor more than 50 tons per 12-month rolling period.
- (3) Hours  
PF1.504 and PF1.505 may operate up to 8,760 hours per calendar year, each.

c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of PF1.504 and PF1.505, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily weight of flocculent processed in PF1.504 and PF1.505, each.
- (3) Monitor and record the hours of operation for PF1.504 and PF1.505, each, for each day of operation.
- (4) Monitor and record the daily average throughput rate of flocculent for PF1.504 and PF1.505, each, in tons per hour, using the monitoring in G.3.c.(2) and G.3.c.(3) above.
- (5) Monitor and record the throughput (in tons) of flocculent for PF1.504 and PF1.505, each, on a monthly basis.
- (6) On a monthly basis, monitor and record the 12-month rolling throughput (in tons per 12-month rolling period) of flocculent for PF1.504 and PF1.505, each, using the monthly recordkeeping in G.3.c.(5) above.
- (7) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the structure that houses PF1.504 and PF1.505 on a monthly basis while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.



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**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**G. Emission Units PF1.504 and PF1.505 (continued)**

**3. Operating Requirements (NAC 445B.3365.3)(continued)**

**d. Performance Test Methods and Procedures NAC 445B.3365**

- (1) Within 60 days after achieving the maximum production rate at which PF1.504 and PF1.505 will be operated, but no later than 180 days after initial startup of PF1.504 and PF1.505, the Permittee will conduct and record a Method 22 visible emissions test on the structure that houses PF1.504 and PF1.505 while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). The Method 9 tests shall be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A, Method 9.
- (2) The Permittee shall provide notification of the anticipated date for conducting the initial opacity observations. The notification shall be postmarked not less than 30 days prior to such date (NAC 445B.252).

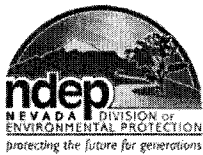
**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial visible emissions observations required in G.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the visible emissions observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).





## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**H. Emission Unit PF1.506**

Location North 4,536.304 km, East 554.654 km, UTM (Zone 11)

**System 121 – Thiosulfate Feed System**

PF 1.506 Bag Splitter and transfer to Mixing Tank

**1. Air Pollution Equipment**

- a. Emissions from PF1.506 shall be controlled by an enclosure.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of PF1.506 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- b. A notification of the anticipated date of initial startup of PF1.506, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- c. A notification of the actual date of initial startup of PF1.506, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements (NAC 445B.3365.3)**

a. **Emission Limits** NAC 445B.305

On and after the date of startup of PF1.506, the Permittee will not discharge or cause the discharge into the atmosphere from PF1.506 the following pollutants in excess of the following specified limits:

- (1) The discharge of PM to the atmosphere from PF1.506 will not exceed 0.22 pound per hour, nor more than 0.03 ton per year.
- (2) The discharge of PM<sub>10</sub> to the atmosphere from PF1.506 will not exceed 0.07 pound per hour, nor more than 0.01 ton per year.
- (3) The opacity from PF1.506 will not equal or exceed 20 percent in accordance with NAC 445B.22017.

b. **Operating Parameters** NAC 445B.305

- (1) The maximum allowable throughput for PF1.506 will not exceed 12 tons of thiosulfate per any one-hour period.
- (2) The total annual throughput for PF1.506 will not exceed 3,000 tons of per 12-month rolling period.
- (3) **Hours**  
PF1.506 may operate up to 8,760 hours per calendar year.

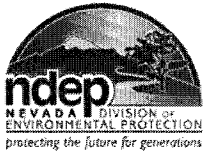
c. **Monitoring and Recordkeeping** NAC 445B.3365

On and after the date of startup of PF1.506, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily throughput of thiosulfate for PF1.506.
- (3) Monitor and record the hours of operation for PF1.506 for each day of operation.
- (4) Monitor and record the daily average throughput rate of thiosulfate for PF1.506 (in tons per hour) using the monitoring in H.3.c.(2) and H.3.c.(3) above.
- (5) Monitor and record the throughput (in tons) of thiosulfate for PF1.506 on a monthly basis.
- (6) On a monthly basis, monitor and record the 12-month rolling throughput (in tons per 12-month rolling period) of thiosulfate for PF1.506 using the monthly recordkeeping in H.3.c.(5) above.
- (7) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the structure that houses PF1.506 on a monthly basis while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.

d. **Performance Test Methods and Procedures** NAC 445B.3365

- (1) Within 60 days after achieving the maximum production rate at which PF1.506 will be operated, but no later than 180 days after initial startup of PF1.506, the Permittee will conduct and record a Method 22 visible emissions test on the structure that houses PF1.506 while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). The Method 9 tests shall be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A, Method 9.
- (2) The Permittee shall provide notification of the anticipated date for conducting the initial opacity observations. The notification shall be postmarked not less than 30 days prior to such date (NAC 445B.252).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

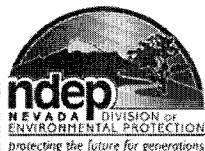
##### **H. Emission Unit PF1.506 (continued)**

###### **4. Reporting NAC 445B.3365**

Within 60 days after completing the initial visible emissions observations required in H.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the visible emissions observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

###### **5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

## Section V. Specific Operating Conditions (continued)

### I. Emission Units PF1.507 and PF1.508

PF1.507 - Location North 4,536.395 km, East 554.483 km, UTM (Zone 11)

PF1.508 - Location North 4,536.304 km, East 554.461 km, UTM (Zone 11)

#### System 122 – Water Softener Feed System

PF 1.507	Water Softener transfer to Mixing Tank 1
PF 1.508	Water Softener transfer to Mixing Tank 2

### 1. Air Pollution Equipment

- a. Emissions from PF1.507 and PF1.508, each, shall be controlled by an enclosure

### 2. Construction Requirements

#### Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of PF1.507 and PF1.508 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of PF1.507 and PF1.508, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of PF1.507 and PF1.508, postmarked within 15 days after such date (NAC 445B.250.3).

### 3. Operating Requirements (NAC 445B.3365.3)

#### a. Emission Limits NAC 445B.305

On and after the date of startup of PF1.507 and PF1.508, the Permittee will not discharge or cause the discharge into the atmosphere from PF1.507 and PF1.508 the following pollutants in excess of the following specified limits:

- (i) The discharge of PM to the atmosphere from PF1.507 will not exceed 0.83 pound per hour, nor more than 0.0023 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from PF1.507 will not exceed 0.25 pound per hour, nor more than 0.0007 ton per year.
- (2) (i) The discharge of PM to the atmosphere from PF1.508 will not exceed 0.22 pound per hour, nor more than 0.00037 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from PF1.508 will not exceed 0.066 pound per hour, nor more than 0.00011 ton per year.
- (3) The opacity from PF1.507 and PF1.508, each, will not equal or exceed 20 percent in accordance with NAC 445B.22017.

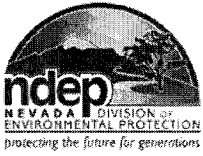
#### b. Operating Parameters NAC 445B.305

- The maximum allowable throughput for PF1.507 will not exceed 45 tons of water softener per any one-hour period, nor more than 250 tons per 12-month rolling period.
- The maximum allowable throughput for PF1.508 will not exceed 12 tons of water softener per any one-hour period, nor more than 40 tons per 12-month rolling period.
- Hours  
PF1.507 and PF1.508, each, may operate up to 8,760 hours per calendar year.

#### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of PF1.507 and PF1.508, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- The calendar date of any required monitoring and recordkeeping.
- Monitor and record the daily throughput of water softener for PF1.507 and PF1.508, each.
- Monitor and record the hours of operation for PF1.507 and PF1.508, each, for each day of operation.
- Monitor and record the daily average throughput rate of water softener for PF1.507 and PF1.508, each, (in tons per hour) using the monitoring in I.3.c.(2) and I.3.c.(3) above.
- Monitor and record the throughput (in tons) of water softener for PF1.507 and PF1.508, each, on a monthly basis.
- On a monthly basis, monitor and record the 12-month rolling throughput (in tons per 12-month rolling period) of water softener for PF1.507 and PF1.508, each, using the monthly recordkeeping in I.3.c.(5) above.
- Conduct and record a Method 22 visible emissions test (excluding water vapor) on the structure that houses PF1.507 and PF1.508 on a monthly basis while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.



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**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**I. Emission Unit PF1.507 and PF1.508 (continued)**

**3. Operating Requirements (NAC 445B.3365.3)(continued)**

**d. Performance Test Methods and Procedures NAC 445B.3365**

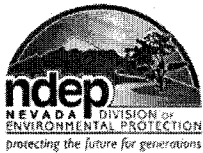
- (1) Within 60 days after achieving the maximum production rate at which PF1.507 and PF1.508 will be operated, but no later than 180 days after initial startup of PF1.507 and PF1.508, the Permittee will conduct and record a Method 22 visible emissions test on the structure that houses PF1.507 and PF1.508 while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions from the structure, the Permittee will conduct and record a Method 9 visible emissions test. The total time of the Method 9 observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). The Method 9 tests shall be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A, Method 9.
- (2) The Permittee shall provide notification of the anticipated date for conducting the opacity observations. The notification shall be postmarked not less than 30 days prior to such date (NAC 445B.252).

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial visible emissions observations required in I.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the visible emissions observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**J. Emission Unit S2.327**

Location North 4,536.452 km, East 554.529 km, UTM (Zone 11)

**System 123 – Thiosulfate Cooling Tower**

**S 2.327 Thiosulfate Cooling Tower (3 cells)**

**Descriptive Stack Parameters (each cell)**

Stack Height (ft): 18.5

Stack Diameter (ft): 14.0

Stack Temperature (°F): Ambient

Exhaust Flow (ACFM): 570,700

**1. Air Pollution Equipment**

- a. Emissions from **S2.327** shall be controlled by drift eliminators guaranteed by the manufacturer to have a drift rate not to exceed 0.001%.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of **S2.327** is commenced postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- b. A notification of the anticipated date of initial startup of **S2.327**, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- c. A notification of the actual date of initial startup of **S2.327**, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements (NAC 445B.3365.3)**

**a. Emission Limits NAC 445B.305**

On and after the date of startup of **S2.327**, the Permittee will not discharge or cause the discharge into the atmosphere from **S2.327** the following pollutants in excess of the following specified limits:

- (1) The discharge of PM to the atmosphere from **S2.327** will not exceed 0.039 pound per hour, nor more than 0.17 ton per year.
- (2) The discharge of PM<sub>10</sub> to the atmosphere from **S2.327** will not exceed 0.039 pound per hour, nor more than 0.17 ton per year.
- (3) The opacity from **S2.327** will not equal or exceed 20 percent in accordance with NAC 445B.22017.

**b. Operating Parameters NAC 445B.305**

- (1) The maximum circulating water flow rate for **S2.327** will not exceed 7,700 gallons per minute (462,000 gallons per hour) for the 3 cooling tower cells combined.
- (2) The maximum total dissolved solids (TDS) content of the circulating water for **S2.327** will not exceed 1,000 mg/L (1,000 ppmw).
- (3) The use of chromium-based water treatment chemicals is prohibited.
- (4) Permittee will perform inspections and maintenance of the drift eliminators for **S2.327** in accordance with the cooling tower manufacturer's guidelines. The drift eliminators shall be visually inspected at least once per calendar year.
- (5) Hours  
**S2.327** may operate up to 8,760 hours per calendar year.

**c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of **S2.327**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the hours of operation for **S2.327** for each day of operation.
- (3) Monitor and record the TDS concentration value, as measured in accordance with J.3.d. of this section.
- (4) Permittee will keep on-site the cooling tower manufacturer's guidelines for maintenance and inspection of the cooling tower drift eliminators. Permittee will maintain inspection records including any observations and actions taken to correct problems with the drift eliminators.

**d. Performance Test Methods and Procedures NAC 445B.3365**

Within 60 days after initial startup, and on a calendar quarterly basis thereafter, Permittee will sample the cooling tower circulating water and determine the TDS concentration, reported in mg/L or ppmw, using EPA Method 160.1 DNS, or an alternative method approved in advance by the Director.



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**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**J. Emission Unit S2.327 (continued)**

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial TDS sampling and analysis required in J.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial TDS sampling and analysis. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

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Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### K. Emission Unit S2.328

Location North 4,536.288 km, East 554.645 km, UTM (Zone 11)

##### System 124 – Elution Area Cooling Tower

S 2.328 Elution Area Cooling Tower

##### Descriptive Stack Parameters

Stack Height (ft): 20

Stack Diameter (ft): 9.0

Stack Temperature (°F): Ambient

Exhaust Flow (ACFM): 126,600

##### 1. Air Pollution Equipment

- a. Emissions from S2.328 shall be controlled by drift eliminators guaranteed by the manufacturer to have a drift rate not to exceed 0.005%.

##### 2. Construction Requirements

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of S2.328 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- b. A notification of the anticipated date of initial startup of S2.328, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- c. A notification of the actual date of initial startup of S2.328, postmarked within 15 days after such date (NAC 445B.250.3).

##### 3. Operating Requirements (NAC 445B.3365.3)

###### a. Emission Limits NAC 445B.305

On and after the date of startup of S2.328, the Permittee will not discharge or cause the discharge into the atmosphere from S2.328 the following pollutants in excess of the following specified limits:

- (1) The discharge of PM to the atmosphere from S2.328 will not exceed 0.12 pound per hour, nor more than 0.52 ton per year.
- (2) The discharge of PM<sub>10</sub> to the atmosphere from S2.328 will not exceed 0.12 pound per hour, nor more than 0.52 ton per year.
- (3) The opacity from S2.328 will not equal or exceed 20 percent in accordance with NAC 445B.22017.

###### b. Operating Parameters NAC 445B.305

- (1) The maximum circulating water flow rate for S2.328 will not exceed 1,900 gallons per minute (114,000 gallons per hour).
- (2) The maximum total dissolved solids (TDS) content of the circulating water for S2.328 will not exceed 2,500 mg/L (2,500 ppmw).
- (3) The use of chromium-based water treatment chemicals is prohibited.
- (4) Permittee will perform inspections and maintenance of the drift eliminators for S2.328 in accordance with the cooling tower manufacturer's guidelines. The drift eliminators shall be visually inspected at least once per calendar year.
- (5) Hours  
S2.328 may operate up to 8,760 hours per calendar year.

###### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.328, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the hours of operation for S2.328 for each day of operation.
- (3) Monitor and record the TDS concentration value, as measured in accordance with K.3.d. of this section.
- (4) Permittee will keep on-site the cooling tower manufacturer's guidelines for maintenance and inspection of the cooling tower drift eliminators. Permittee will maintain inspection records including any observations and actions taken to correct problems with the drift eliminators.

###### d. Performance Test Methods and Procedures NAC 445B.3365

Within 60 days after initial startup, and on a calendar quarterly basis thereafter, Permittee will sample the cooling tower circulating water and determine the TDS concentration, reported in mg/L or ppmw, using EPA Method 160.1 DNS, or an alternative method approved in advance by the Director.



**BUREAU OF AIR POLLUTION CONTROL**

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**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**K. Emission Unit S2.328 (continued)**

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial TDS sampling and analysis required in K.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial TDS sampling and analysis. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).





**BUREAU OF AIR POLLUTION CONTROL**

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**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**L. Emission Unit S2.329P**

Location North 4,536.407 km, East 554.491 km, UTM (Zone 11)

**System 125A – Regeneration Boiler – Propane – REMOVED Month, Day 2013**  
S 2.329P 81.0 MMBtu Regeneration Boiler, Propane Combustion

**M. Emission Unit S2.329NG**

Location North 4,536.407 km, East 554.491 km, UTM (Zone 11)

**System 125B – Regeneration Boiler – Alternative Operating Scenario – Natural Gas – REMOVED Month, Day 2013**  
S 2.329NG 81.0 MMBtu Regeneration Boiler, Natural Gas Combustion

**N. Emission Unit S2.330**

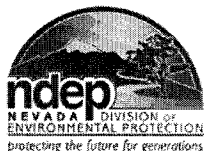
Location North 4537.724 km, East 555.431 km, UTM (Zone 11)

**System 126A – Tailings Thickener Emergency Generator – REMOVED Month, Day 2013**  
S 2.330 134 HP (100 kW) Emergency Diesel Generator

**O. Emission Unit S2.331**

Location North 4,536.292 km, East 554.548 km, UTM (Zone 11)

**System 126B – Water Treatment Emergency Generator – REMOVED Month, Day 2013**  
S 2.331 671 HP (500 kW) Emergency Diesel Generator



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

## Section V. Specific Operating Conditions (continued)

### P. Emission Units S2.332.1 – S2.332.8

Location North 4,536.407 km, East 554.487 km, UTM (Zone 11)

#### System 127 – Thiosulfate Recycle System

S	2.332.1	Thiosulfate Recycle Tank 1 (est. 60,847 gallon capacity)
S	2.332.2	Thiosulfate Recycle Tank 2 (est. 60,847 gallon capacity)
S	2.332.3	Thiosulfate Recycle Tank 3 (est. 60,847 gallon capacity)
S	2.332.4	Thiosulfate Recycle Solution Tank (est. 25,926 gallon capacity)
S	2.332.5	Regen 1 Storage Tank (est. 10,185 gallon capacity)
S	2.332.6	Regen 2 Mixing Tank (est. 10,185 gallon capacity)
S	2.332.7	Regen 2 Storage Tank (est. 6,481 gallon capacity)
S	2.332.8	Regen 1 Mixing Tank (est. 10,185 gallon capacity)

#### Descriptive Stack Parameters

Stack Height (ft): 70

Stack Diameter (ft): 3

Stack Temperature (°F): 81

Exhaust Flow (DSCFM): 35,000

#### 1. Air Pollution Equipment

Exhaust gas from S2.332.1 – S2.332.8, combined, shall be ducted to a control system, with 100% capture, consisting of a Spray Tower Scrubber. The Spray Tower Scrubber shall operate at all times S2.332.1 – S2.332.8, each, are operating.

#### 2. Construction Requirements

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.332.1 – S2.332.8 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.332.1 – S2.332.8, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2)
- A notification of the actual date of initial startup of S2.332.1 – S2.332.8, postmarked within 15 days after such date (NAC 445B.250.3)

#### 3. Operating Requirements NAC 445B.3365.3

##### a. Emission Limits NAC 445B.305

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.332.1 – S2.332.8 the following pollutants in excess of the following specified limits:

- The discharge of PM (particulate matter) to the atmosphere will not exceed 0.6 pound per hour, nor more than 2.63 tons per year.
- The discharge of PM<sub>10</sub> (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 0.6 pound per hour, nor more than 2.63 tons per year.
- The discharge of H<sub>2</sub>S (hydrogen sulfide) to the atmosphere will not exceed 0.02 pound per hour, nor more than 0.08 ton per year.
- The opacity from the exhaust stack of S2.332.1 – S2.332.8 will not equal or exceed 20 percent in accordance with NAC 445B.22017.

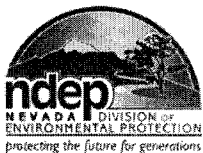
##### b. Operating Parameters NAC 445B.305

- The maximum allowable throughput rate of thiosulfate recycle solution in S2.332.1 – S2.332.3, each, shall not exceed 1,820 gallons per minute (109,200 gallons per hour)
- Hours  
S2.332.1 – S2.332.8 may operate up to 8,760 hours per calendar year.

##### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.332.1 – S2.332.8, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- The calendar date of any required monitoring and recordkeeping.
- Monitor and record the volume flow rate of thiosulfate recycle solution for S2.332.1 – S2.332.3, each, (in gallons per minute) once per day.
- Monitor and record the hours of operation for the Spray Tower Scrubber during each day of operation.
- Monitor and record the pH of the spray tower scrubbing liquor on a daily basis.
- Monitor and record the flow rate of the spray tower scrubbing liquor on a daily basis.
- Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of S2.332 on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**P. Emission Units S2.332.1 – S2.332.8 (continued)**

**3. Operating Requirements (continued)**

**d. Test Methods and Procedures (NAC 445B.3365.3)**

The Permittee shall demonstrate compliance with the emission limits established in P.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.332.1 – S2.332.8**:

- (1) Within 60 days after achieving the maximum production rate at which **S2.332.1 – S2.332.8** will be operated, but no later than 180 days after initial startup of the facility, the Permittee will conduct a Method 5/202 (that includes the back-half catch) performance test for PM emissions or a Method 201A/202 performance test for PM<sub>10</sub> emissions consisting of 3 valid runs. The sample volume for each test run shall be at least 60 DSCF, and the sample time shall be a minimum of 1 hour. The Method 5/202 performance tests must be conducted in accordance with 40 CFR Part 60, Appendix A. The Method 201A/202 performance tests must be conducted in accordance with 40 CFR Part 51, Appendix M. All particulate captured in the Method 5/202 test shall be considered PM<sub>10</sub> emissions for compliance demonstration purposes.
- (2) Within 60 days after achieving the maximum production rate at which **S2.332.1 – S2.332.8** will be operated, but no later than 180 days after initial startup of the facility, the Permittee will conduct and record a Method 15/16 test for hydrogen sulfide (or an alternative method approved in advance by the Director) in accordance with 40 CFR Part 60, Appendix A.
- (3) Within 60 days after achieving the maximum production rate at which **S2.332.1 – S2.332.8** will be operated, but no later than 180 days after initial startup of the facility, the Permittee shall determine compliance with the opacity standard established in P.3.a. of this section by conducting visible emissions test on the exhaust stack of **S2.332** while operating. The Method 9 test will be performed at the same time as the particulate matter testing described in P.3.d.(1) above. The initial opacity test shall be performed using EPA Method 9 as specified in 40 CFR Part 60, Appendix A. The time of observations shall be 6 minutes (24 consecutive readings at 15-second intervals). The Method 9 performance tests shall be conducted by a certified visible emissions reader in accordance with procedures specified in 40 CFR Part 60, Appendix A, Method 9.
- (4) For each performance test run, Permittee will measure the following:
  - (i) The thiosulfate recycle solution throughput, in gallons.
  - (ii) The pH of the spray tower scrubbing liquor.
  - (iii) The volume flow rate of the spray tower scrubbing liquor.
- (5) Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).
- (6) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (7) Permittee shall comply with the requirements of Section I.Q.3 through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial performance tests and opacity observations required in P.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial performance tests and the opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

Q. Emission Units S2.333.1 – S2.333.8

Location North 4,536.293 km, East 554.699 km, UTM (Zone 11)

##### System 128 – Elution Circuit Process Tanks

S	2.333.1	Train A Resin Regeneration Tank (est. 10,185 gallon capacity)
S	2.333.2	Train A Heat Recovery Tank (est. 11,455 gallon capacity)
S	2.333.3	Train B Resin Regeneration Tank (est. 10,185 gallon capacity)
S	2.333.4	Train B Heat Recovery Tank (est. 11,455 gallon capacity)
S	2.333.5	Eluant Synthesis Feed Tank (est. 23,148 gallon capacity)
S	2.333.6	Eluant Synthesis Tank (est. 23,148 gallon capacity)
S	2.333.7	Regen 1 Day Tank (est. 21,032 gallon capacity)
S	2.333.8	Regen 2 Day Tank (est. 31,217 gallon capacity)

##### Descriptive Stack Parameters (Final Control)

Stack Height (ft): 65

Stack Diameter (ft): 3

Stack Temperature (°F): 140

Exhaust Flow (DSCFM): 6,409

##### 1. Air Pollution Equipment

Exhaust gas from S2.333.1 – S2.333.8, combined, shall be ducted to a control system, with 100% capture, consisting of the following control devices in series, listed in the order of placement in the exhaust system:

- Spray Tower Scrubber for control of H<sub>2</sub>S. The Spray Tower Scrubber shall operate at all times S2.333.1 – S2.333.8, each, are operating.
- Carbon Filter for control of mercury (Final Control).

##### 2. Construction Requirements

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.333.1 – S2.333.8 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.333.1 – S2.333.8, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2)
- A notification of the actual date of initial startup of S2.333.1 – S2.333.8, postmarked within 15 days after such date (NAC 445B.250.3).

##### 3. Operating Requirements NAC 445B.3365.3

###### a. Emission Limits NAC 445B.305

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.333.1 – S2.333.8 the following pollutants in excess of the following specified limits:

- The discharge of H<sub>2</sub>S (hydrogen sulfide) to the atmosphere will not exceed 0.01 pound per hour, nor more than 0.045 ton per year.
- The opacity from the exhaust stack of S2.333.1 – S2.333.8 will not equal or exceed 20 percent in accordance with NAC 445B.22017.

###### b. Operating Parameters NAC 445B.305

- The maximum allowable throughput rate of elution circuit solution in S2.333.1 & S2.333.3, combined, shall not exceed 20,500 gallons per batch.
- Hours**  
S2.333.1 – S2.333.8 may operate up to 8,760 hours per calendar year.

###### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.333.1 – S2.333.8, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- The calendar date of any required monitoring and recordkeeping.
- Monitor and record the combined volume of elution circuit solution processed in S2.333.1 & S2.333.3 (in gallons) for each batch.
- Monitor and record the hours of operation for the Spray Tower Scrubber during each day of operation.
- Monitor and record the pH of the spray tower scrubbing liquor on a daily basis.
- Monitor and record the flow rate of the spray tower scrubbing liquor on a daily basis.



## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**Q. Emission Units S2.333.1 – S2.333.8 (continued)**

**3. Operating Requirements (continued)**

**d. Test Methods and Procedures (NAC 445B.3365.3)**

The Permittee shall demonstrate compliance with the emission limits established in Q.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.333.1 – S2.333.8**:

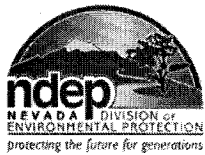
- (1) Within 60 days after achieving the maximum production rate at which **S2.332.1 – S2.332.8** will be operated, but no later than 180 days after initial startup of the facility, the Permittee will conduct and record a Method 15/16 test for hydrogen sulfide (or an alternative method approved in advance by the Director) in accordance with 40 CFR Part 60, Appendix A.
- (2) For each performance test run, Permittee will measure the following:
  - (i) The elution circuit solution throughput, in gallons.
  - (ii) The pH of the spray tower scrubbing liquor.
  - (iii) The volume flow rate of the spray tower scrubbing liquor.
- (3) Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).
- (4) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (5) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial performance test required in Q.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the performance test. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**R. Emission Units S2.334 and S2.335**

S2.334 - Location North 4,536.452 km, East 554.529 km, UTM (Zone 11)

S2.335 - Location North 4,536.452 km, East 554.529 km, UTM (Zone 11)

**System 129 - Liquid Sulfur Loading and Storage**

S 2.334 Truck Unloading Sulfur Tank (est. 9,584 gallon capacity)

S 2.335 Sulfur Storage Tank (est. 102,799 gallon capacity)

**S2.334 Descriptive Stack Parameters**

Stack Height (ft): 20

Stack Diameter (ft): 0.83

Stack Temperature (°F): 160

Exhaust Flow (ACFM): 20

**S2.335 Descriptive Stack Parameters**

Stack Height (ft): 26

Stack Diameter (ft): 0.83

Stack Temperature (°F): 160

Exhaust Flow (ACFM): 87

**1. Air Pollution Equipment**

S2.334 and S2.335 have no add-on controls.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

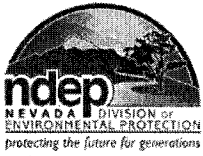
The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.334 and S2.335 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.334 and S2.335, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2)
- A notification of the actual date of initial startup of S2.334 and S2.335, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements NAC 445B.3365.3**

**Emission Limits (NAC 445B.305)**

- On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stacks of S2.334 and S2.335 the following pollutants in excess of the following specified limits:
  - The discharge of H<sub>2</sub>S (hydrogen sulfide) to the atmosphere from S2.334 will not exceed 0.012 pound per hour, nor more than 0.053 ton per year.
  - The discharge of H<sub>2</sub>S (hydrogen sulfide) to the atmosphere from S2.335 will not exceed 0.053 pound per hour, nor more than 0.23 ton per year.
  - The opacity from the exhaust stacks of S2.334 and S2.335, each, will not equal or exceed 20 percent in accordance with NAC 445B.22017.
- Operating Parameters NAC 445B.305**
  - The maximum allowable unloading rate of liquid sulfur from S2.334 shall not exceed 4,500 gallons per hour, nor more than 3,311,280 gallons per year.
  - The maximum allowable unloading rate of liquid sulfur from S2.335 shall not exceed 378 gallons per hour, nor more than 3,311,280 gallons per year.
  - The Permittee will only process de-gassed liquid sulfur in S2.334 and S2.335, with a nominal H<sub>2</sub>S content of 10 parts-per-million by weight (ppmw).
  - Hours**  
S2.334 and S2.335, each, may operate up to 8,760 hours per calendar year.



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### R. Emission Units S2.334 and S2.335 (continued)

###### 3. Operating Requirements (continued)

###### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.334 and S2.335, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the amount of liquid sulfur, in gallons, unloaded from S2.334 and S2.335, each, on a daily basis.
- (3) Monitor and record the duration of the unloading for S2.334 and S2.335, each, during each day unloading occurs.
- (4) Monitor and record the daily average hourly throughput of liquid sulfur for S2.334 and S2.335, each, using the monitoring in R.3.c.(2) and R.3.c.(3) above.
- (5) The Permittee will maintain documentation on-site showing that the liquid sulfur delivered to the site and processed in S2.334 and S2.335 has been de-gassed.

###### 4. Class I Operating Permit Application

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### S. Emission Units S2.336 – S2.340

S2.336 – S2.338 Location North 4,536.452 km, East 554.529 km, UTM (Zone 11)

S2.339 – S2.340 Location North 4,536.452 km, East 554.529 km, UTM (Zone 11)

##### System 130 – Polysulfide (PS) Reactors

S	2.336	Polysulfide Reactor 1 (est. 7,464.45 gallon capacity)
S	2.337	Polysulfide Reactor 2 (est. 7,464.45 gallon capacity)
S	2.338	Polysulfide Reactor 3 (est. 7,464.45 gallon capacity)
S	2.339	PS Day Tank 1 (est. 9,929 gallon capacity)
S	2.340	PS Day Tank 2 (est. 9,929 gallon capacity)

##### Descriptive Stack Parameters S2.336 – S2.338 (each stack)

Stack Height (ft): 24  
Stack Diameter (ft): 0.25  
Stack Temperature (°F): 200  
Exhaust Velocity (ft/min): 0.20

##### Descriptive Stack Parameters S2.339 – S2.340 (each stack)

Stack Height (ft): 24  
Stack Diameter (ft): 0.25  
Stack Temperature (°F): 180  
Exhaust Velocity (ft/min): 0.20

##### 1. Air Pollution Equipment

S2.336 – S2.340 have no add-on controls.

##### 2. Construction Requirements

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.336 – S2.340 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.336 – S2.340, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.336 – S2.340, postmarked within 15 days after such date (NAC 445B.250.3).

##### 3. Operating Requirements NAC 445B.3365.3

Emission Limits NAC 445B.305

- On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stacks of S2.336 – S2.338 and S2.339 – S2.340 the following pollutants in excess of the following specified limits:
  - The discharge of H<sub>2</sub>S (hydrogen sulfide) to the atmosphere from S2.336 – S2.338, combined, will not exceed 2.98E-4 pound per hour, nor more than 1.3E-3 ton per year.
  - The discharge of H<sub>2</sub>S (hydrogen sulfide) to the atmosphere from S2.339 – S2.340, combined, will not exceed 2.08E-4 pound per hour, nor more than 9.10E-4 ton per year.
  - The opacity from the exhaust stacks of S2.336 – S2.338 and S2.339 – S2.340, each, will not equal or exceed 20 percent in accordance with NAC 445B.22017.
- Operating Parameters NAC 445B.305
  - The maximum allowable throughput rate of polysulfide solution in S2.336 – S2.338, combined, shall not exceed 13,500 gallons per hour, nor more than 75,039,912 gallons per year.
  - The maximum allowable throughput rate of polysulfide solution in S2.339 – S2.340, combined, shall not exceed 9,000 gallons per hour, nor more than 50,026,608 gallons per year.
  - Hours  
S2.336 – S2.340, each, may operate up to 8,760 hours per calendar year.





## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### S. Emission Units S2.336 – S2.340 (continued)

##### 3. Operating Requirements (continued)

##### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.336 – S2.340, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the combined volume of polysulfide solution processed in S2.336 – S2.338 on a daily basis.
- (3) Monitor and record the combined volume of polysulfide solution processed in S2.339 – S2.340 on a daily basis.
- (4) Monitor and record the hours of operation for S2.336 – S2.340, each, during each day of operation.
- (5) Monitor and record the daily average hourly throughput rate (in gallons per hour) of polysulfide solution for S2.336 – S2.038 and S2.339 – S2.340, each, using the monitoring required in S.3.c.(2), S.3.c.(3), and S.3.c.(4) above.
- (6) Monitor and record the H<sub>2</sub>S concentration in the vicinity of S2.336 – S2.340 using a portable analyzer with manufacturer-guaranteed H<sub>2</sub>S detection limit no greater than 1.0 ppm. The Permittee will maintain on-site, and make available for inspection, the manufacturer's documentation showing the detection limit of the portable analyzer. At a minimum, the H<sub>2</sub>S monitoring shall be performed on a monthly basis.

##### 4. Class I Operating Permit Application

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

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Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

**T. Emission Units S2.342.1 – S2.342.3**

Location North 4,536.169 km, East 554.512 km, UTM (Zone 11)

**System 131 – Electrowinning Cells and Pregnant/Barren Solution Tanks**

S	2.342.1	RIL Electrowinning Cells
S	2.342.2	RIL Pregnant/Barren Solution Tank A
S	2.342.3	RIL Pregnant/Barren Solution Tank B

Descriptive Stack Parameters for Carbon Adsorber

Stack Height (ft): 85  
Stack Diameter (ft): 3  
Stack Temperature (°F): 140  
Exhaust Flow (DSCFM): 10,337

**1. Air Pollution Equipment**

- a. Exhaust gas from S2.342.1 – S2.342.3 shall be ducted to a control system, with 100% capture, consisting of a Carbon Adsorber. S2.342.1 – S2.342.3 are ducted to a single stack.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of S2.342.1 – S2.342.3 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)  
b. A notification of the anticipated date of initial startup of S2.342.1 – S2.342.3, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).  
c. A notification of the actual date of initial startup of S2.342.1 – S2.342.3, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements NAC 445B.3365.3**

Emission Limits (NAC 445B.305)

- a. On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.342.1 – S2.342.3 the following pollutants in excess of the following specified limits:  
(1) The discharge of mercury (Hg) to the atmosphere will not exceed the limits specified in Section VI of this Operating Permit-to-Construct (OPTC), and in accordance with the applicable requirements of 40 CFR Part 63, Subpart EEEEEEE for the Gold Mine Ore Processing and Production Area Source Category for carbon processes with retorts (40 CFR 63.11640 et. seq.).  
(2) The opacity from the exhaust stack of S2.342.1 – S2.342.3 will not equal or exceed 20 percent in accordance with NAC 445B.22017.

Operating Parameters NAC 445B.305

- (1) The maximum allowable hourly throughput rate of solution in S2.342.1 – S2.342.3, each, shall not exceed 500 gallons per minute (30,000 gallons per hour).  
(2) Hours  
S2.342.1 – S2.342.3, each, may operate up to 8,760 hours per calendar year.

Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.342.1 – S2.342.3, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.  
(2) Monitor and record the throughput of solution, in gallons per minute, for S2.342.1 – S2.342.3, each, once per day.  
(3) Monitor and record the hours of operation for S2.342.1 – S2.342.3, each, during each day of operation.



## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

## **Section V. Specific Operating Conditions (continued)**

### **T. Emission Units S2.342.1 – S2.342.3 (continued)**

#### **3. Operating Requirements (continued)**

##### **d. Test Methods and Procedures (NAC 445B.3365.3)**

The Permittee shall demonstrate compliance with the emission limits established in T.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.342.1 – S2.342.3**:

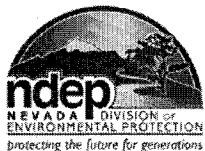
- (1) The Permittee shall demonstrate compliance with the emission limits established in 40 CFR Part 63, Subpart EEEEEEE for the *Gold Mine Ore Processing and Production Area Source Category* for carbon processes with retorts (40 CFR 63.11640 et. seq.) by conducting performance tests, as specified in Section VI.A.4 of this OPTC, on the exhaust stack of **S2.342.1 – S2.342.3**.
- (2) Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).
- (3) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (4) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

#### **4. Reporting NAC 445B.3365**

Within 60 days after completing the performance tests specified in Section VI of this OPTC, the Permittee shall furnish the Director a written report of the results of the performance tests. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

#### **5. Application for a Part 70 Air Quality Operating Permit**

If you (Permittee) own or operate a source subject to 40 CFR Part 63, Subpart EEEEEEE, you must have or must obtain a permit under 40 CFR Part 70 (40 CFR 63.11640(d)).



## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

## Section V. Specific Operating Conditions (continued)

### **U. Emission Units S2.345 and PF1.509**

Location North 4,536.305 km, East 554.457 km, UTM (Zone 11)

System 132 – Soda Ash Feed System: Silo Loading and Discharge		
S	2.345	Soda Ash Silo/Guppy (est. 146 Ton capacity) – Loading
PF	1.509	Soda Ash Silo/Guppy (est. 146 Ton capacity) – Discharge

#### Descriptive Stack Parameters for S2.345

Stack Height (ft): 70

Stack Diameter (ft): 0.67

Stack Temperature (°F): Ambient

Exhaust Flow (DSCFM): 600

#### **1. Air Pollution Equipment**

- a. Emissions from **S2.345** shall be controlled by a Vent Filter.
- b. **PF1.509** has no add-on controls.

#### **2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- a. A notification of the date of construction of **S2.345** and **PF1.509** is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- b. A notification of the anticipated date of initial startup of **S2.345** and **PF1.509**, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- c. A notification of the actual date of initial startup of **S2.345** and **PF1.509**, postmarked within 15 days after such date (NAC 445B.250.3).

#### **3. Operating Requirements (NAC 445B.3365.3)**

##### **a. Emission Limits NAC 445B.305**

On and after the date of startup of **S2.345** and **PF1.509**, the Permittee will not discharge or cause the discharge into the atmosphere from **S2.345** and **PF1.509** the following pollutants in excess of the following specified limits:

- (1) (i) The discharge of PM to the atmosphere from **S2.345** will not exceed 0.04 pound per hour, nor more than 0.01 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from **S2.345** will not exceed 0.014 pound per hour, nor more than 0.003 ton per year.
- (2) (i) The discharge of PM to the atmosphere from **PF1.509** will not exceed 0.10 pound per hour, nor more than 0.04 ton per year.
- (ii) The discharge of PM<sub>10</sub> to the atmosphere from **PF1.509** will not exceed 0.056 pound per hour, nor more than 0.03 ton per year.
- (3) The opacity from **S2.345** and **PF1.509**, each, will not equal or exceed 20 percent in accordance with NAC 445B.22017.

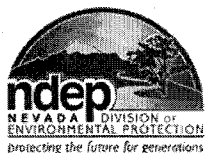
##### **b. Operating Parameters NAC 445B.305**

- (1) The maximum allowable throughput for **S2.345** will not exceed 40 tons of soda ash per any one-hour period.
- (2) The maximum allowable throughput for **PF1.509** will not exceed 20 tons of soda ash per any one-hour period.
- (3) The total annual throughput for **S2.345** and **PF1.509** will not exceed 18,000 tons of soda ash per 12-month rolling period, each.
- (4) Hours  
**S2.345** and **PF1.509** may operate up to 8,760 hours per calendar year, each.

##### **c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of **S2.345** and **PF1.509**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the amount of soda ash loaded into **S2.345** and the duration of the loading each day loading occurs.
- (3) Monitor and record the amount of soda ash discharged from **PF1.509** on a monthly basis. The amount of soda ash will be based on purchasing receipts and measurements of the level of soda ash in the silo at the beginning and end of the month.
- (4) Monitor and record the hours of operation for **S2.345** and **PF1.509**, each, for each day of operation.
- (5) Monitor and record the average loading and discharge rate (in tons per hour) of soda ash using the monitoring in U.3.c.(2), U.3.c.(3), and U.3.c.(4) above.
- (6) Monitor and record the throughput (in tons) of soda ash for **S2.345** on a monthly basis.
- (7) On a monthly basis, monitor and record the 12-month rolling throughput (in tons per 12-month rolling period) of soda ash for **S2.345** and **PF1.509**, each, using the monthly recordkeeping in U.3.c.(3) and U.3.c.(6) above.
- (8) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of **S2.345** and on the discharge of **PF1.509** on a monthly basis while operating. The Method 22 test shall be conducted as set forth in 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee will conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.



## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

##### **U. Emission Units S2.345 and PF1.509 (continued)**

##### **3. Operating Requirements (NAC 445B.3365.3)(continued)**

##### **d. Performance Test Methods and Procedures NAC 445B.3365**

- (1) Within 60 days after achieving the maximum production rate at which **S2.345** and **PF1.509** will be operated, but no later than 180 days after initial startup of **S2.345** and **PF1.509**, conduct and record a Method 9 visible emissions test on **S2.345** and **PF1.509** while operating. The total time of observations shall be 6-minutes (24 consecutive observations recorded at 15-second intervals). The Method 9 tests shall be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A, Method 9.
- (2) The Permittee shall provide notification of the anticipated date for conducting the opacity observations. The notification shall be postmarked not less than 30 days prior to such date (NAC 445B.252).

##### **4. Reporting NAC 445B.3365**

Within 60 days after completing the initial opacity observations required in U.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

##### **5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

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Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### V. Emission Unit S2.361NG

Location North 4536.106 km, East 554.928 km, UTM (Zone 11)

<b>System 141A – TKI Boiler (Natural Gas) – ADDED Month, Day 2013</b>
<b>S 2.361NG TKI Boiler (12 MMBtu, Natural Gas-fired)</b>

##### Descriptive Stack Parameters

Stack Height (ft): 25  
Stack Diameter (ft): 1.67  
Stack Temperature (°F): 400  
Stack Exit Velocity (fps): 61.1  
Exhaust Flow (ACFM): 8,000  
Exhaust Flow (DSCFM): 2,900

##### 1. Air Pollution Equipment

- a. S2.361NG shall be equipped with low-NOx burner passive controls.

##### 2. Construction Requirements

Notification and Recordkeeping (40 CFR 60.7, NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.361NG is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (40 CFR 60.7(a)(1); NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.361NG, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.361NG, postmarked within 15 days after such date (40 CFR 60.7(a)(3); NAC 445B.250.3).
- NSPS 40 CFR Part 60, Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* - The notification required in V.2.c. above shall include the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility (40 CFR 60.48c(a)(1)).
- A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice (40 CFR 60.7(a)(4)).

##### 3. Operating Requirements (NAC 445B.3365.3)

###### a. Emission Limits NAC 445B.305

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.361NG the following pollutants in excess of the following specified limits:

- The discharge of PM (particulate matter) to the atmosphere will not exceed 0.13 pound per hour, nor more than 0.58 ton per year.
- The discharge of PM<sub>10</sub> (particulate matter less than 10 microns) to the atmosphere will not exceed 0.13 pound per hour, nor more than 0.58 ton per year.
- The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 0.20 pound per hour, nor more than 0.89 ton per year.
- The discharge of NO<sub>x</sub> (nitrogen oxides) to the atmosphere will not exceed 1.08 pounds per hour, nor more than 4.73 tons per year.
- The discharge of CO (carbon monoxide) to the atmosphere will not exceed 1.97 pounds per hour, nor more than 8.62 tons per year.
- The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.31 pound per hour, nor more than 1.37 tons per year.
- The opacity from the exhaust stack of S2.361NG will not equal or exceed 20 percent in accordance with NAC 445B.22017.



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### V. Emission Unit S2.361NG (continued)

###### 3. Operating Requirements NAC 445B.3365.3 (continued)

###### b. Operating Parameters NAC 445B.305

- (1) **System 141A** is the primary operating scenario for **S2.361NG** and will combust only pipeline quality natural gas as the primary fuel.
- (2) The maximum pipeline quality natural gas consumption rate for **S2.361NG** will not exceed 11,760 standard cubic feet (SCF) per any one-hour period.
- (3) Hours  
**S2.361NG** may operate up to 8,760 hours per calendar year.

###### c. Monitoring and Recordkeeping NAC 445B.3365, 40 CFR 60.48c

On and after the date of startup of **S2.361NG**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily consumption of natural gas, in SCF, for each day of operation.
- (3) Monitor and record the hours of operation for **S2.361NG** during each day of operation.
- (4) Maintain on-site and make available upon request, certification by the fuel supplier that the natural gas delivered to the Permittee for use in **S2.361NG** is pipeline quality natural gas.
- (5) Monitor and record the daily average hourly natural gas consumption rate (in SCF per hour) using the monitoring required in V.3.c.(2) and V.3.c.(3) above.
- (6) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of **S2.361NG** on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.
- (7) NSPS 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units - The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each calendar month, using the monitoring required in V.3.c.(2) of this section (40 CFR 60.48c(g)(2)).
- (8) NSPS 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units - All records required under V.3.c.(7) of this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record (40 CFR 60.48c(i)).

###### d. Performance Test Methods and Procedures (NAC 445B.3365)

The Permittee shall demonstrate compliance with the emission limits established in V.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.361NG**:

- (1) Within 60 days after achieving the maximum production rate at which **S2.361NG** will be operated, but no later than 180 days after initial startup of the facility, the Permittee will conduct a Method 5/202 (filterable + condensable particulate) performance test for PM emissions, or a Method 201A/202 performance test for PM<sub>10</sub> emissions, consisting of 3 valid runs. The sample volume for each test run shall be at least 60 DSCF, and test runs must be conducted for up to two hours in an effort to collect this minimum sample. The results of this test will consist of the average of three valid runs. The Method 5 performance test must be conducted in accordance with 40 CFR Part 60, Appendix A. The Method 201A and 202 performance tests must be conducted in accordance with 40 CFR Part 51, Appendix M. All particulate captured in the Method 5/202 test shall be considered PM<sub>10</sub> emissions for compliance demonstration purposes.
- (2) Within 60 days after achieving the maximum production rate at which **S2.361NG** will be operated, but no later than 180 days after initial startup of the facility, Permittee will conduct and record the following performance tests (or equivalent EPA reference methods as approved in advance by the Director) on the exhaust stack of **S2.361NG**:
  - (i) A Method 7E for NO<sub>x</sub>.
  - (ii) A Method 10 for CO.
  - (iii) A Method 25A for VOC.Each test in V.3.d.(2)(i) through (iii) above will be run for a minimum of 1-hour, and the results of the tests for each pollutant will consist of the average of three 1-hour, or longer, runs.
- (3) Within 60 days after achieving the maximum production rate at which **S2.361NG** will be operated, but no later than 180 days after initial startup of the facility, the Permittee shall determine compliance with the opacity standard established in V.3.a. of this section by conducting visible emissions test on the exhaust stack of **S2.361NG** while operating. The Method 9 test will be performed at the same time as the particulate matter testing described in V.3.d.(1) above. The initial opacity test shall be performed using EPA Method 9 as specified in 40 CFR Part 60, Appendix A. The time of observations shall be 6-minutes (24 consecutive readings at 15-second intervals). The Method 9 performance tests shall be conducted by a certified visible emissions reader in accordance with procedures specified in 40 CFR Part 60, Appendix A, Method 9.
- (4) Permittee will record the volume of natural gas combusted, in SCF, during each test run.
- (5) Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### V. Emission Unit S2.361NG (continued)

##### 3. Operating Requirements NAC 445B.3365.3 (continued)

##### d. Performance Test Methods and Procedures (NAC 445B.3365)(continued)

- (6) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (7) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8 and I.R.3. through I.R.8. of this operating permit for all performance testing.

##### 4. Reporting NAC 445B.3365

Within 60 days after completing the initial performance tests and opacity observations required in V.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial performance tests and the opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

##### 5. Class I Operating Permit Application

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).





## BUREAU OF AIR POLLUTION CONTROL

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Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### W. Emission Unit S2.361P

Location North 4,536.106 km, East 554.928 km, UTM (Zone 11)

<b>System 141B – TKI Boiler (Propane) – Alt. Scenario – ADDED Month, Day 2013</b>
<b>S 2.361P TKI Boiler (12 MMBtu, Propane-fired)</b>

##### Descriptive Stack Parameters

Stack Height (ft): 25  
Stack Diameter (ft): 1.67  
Stack Temperature (°F): 400  
Stack Exit Velocity (fps): 61.1  
Exhaust Flow (ACFM): 8,000  
Exhaust Flow (DSCFM): 2,900

##### 1. Air Pollution Equipment

- a. S2.361P shall be equipped with low-NOx burner passive controls

##### 2. Construction Requirements

Notification and Recordkeeping (40 CFR 60.7, NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.361P is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (40 CFR 60.7(a)(1); NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.361P, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.361P, postmarked within 15 days after such date (40 CFR 60.7(a)(3); NAC 445B.250.3).
- NSPS 40 CFR Part 60, Subpart Dc – *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units* - The notification required in W.2.c. above shall include the design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility (40 CFR 60.48c(a)(1)).
- A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice (40 CFR 60.7(a)(4)).

##### 3. Operating Requirements (NAC 445B.3365.3)

###### a. Emission Limits NAC 445B.305

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.361P the following pollutants in excess of the following specified limits:

- The discharge of PM (particulate matter) to the atmosphere will not exceed 0.13 pound per hour, nor more than 0.58 ton per year.
- The discharge of PM<sub>10</sub> (particulate matter less than 10 microns) to the atmosphere will not exceed 0.13 pound per hour, nor more than 0.58 ton per year.
- The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 0.20 pound per hour, nor more than 0.89 ton per year.
- The discharge of NO<sub>x</sub> (nitrogen oxides) to the atmosphere will not exceed 1.08 pounds per hour, nor more than 4.73 tons per year.
- The discharge of CO (carbon monoxide) to the atmosphere will not exceed 1.97 pounds per hour, nor more than 8.62 tons per year.
- The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.31 pound per hour, nor more than 1.37 tons per year.
- The opacity from the exhaust stack of S2.361P will not equal or exceed 20 percent in accordance with NAC 445B.22017.



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

W. Emission Unit S2.361P (continued)

3. Operating Requirements NAC 445B.3365.3 (continued)

b. Operating Parameters NAC 445B.305

- (1) **System 141B (S2.361P)** is the alternative operating scenario for **S2.361NG** and will combust only propane (liquefied petroleum gas) as the alternative fuel.
- (2) The maximum liquid propane consumption rate for **S2.361P** will not exceed 131 gallons per any one-hour period.
- (3) The liquid propane combusted in **S2.361P** will not exceed 185 ppm (by weight) sulfur.
- (4) Hours  
**S2.361P** may operate up to 8,760 hours per calendar year.

c. Monitoring and Recordkeeping NAC 445B.3365, 40 CFR 60.48c

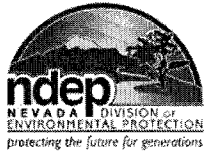
On and after the date of startup of **S2.361P**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily consumption of liquid propane for **S2.361P**, in gallons, for each day of operation.
- (3) Monitor and record the hours of operation for **S2.361P** during each day of operation.
- (4) Maintain on-site and make available upon request, certification by the fuel supplier that the liquid propane delivered to the Permittee for use in **S2.361P** does not exceed the sulfur limit specified in W.3.b.(3) above.
- (5) Monitor and record the daily average hourly liquid propane consumption rate (in gallons per hour) using the monitoring required in W.3.c.(2) and W.3.c.(3) above.
- (6) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of **S2.361P** on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.
- (7) NSPS 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units - The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each calendar month, using the monitoring required in W.3.c.(2) of this section (40 CFR 60.48c(g)(2)).
- (8) NSPS 40 CFR Part 60, Subpart Dc – Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units - All records required under W.3.c.(7) of this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record (40 CFR 60.48c(i)).

d. Performance Test Methods and Procedures (NAC 445B.3365)

The Permittee shall demonstrate compliance with the emission limits established in W.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.361P**:

- (1) Within 60 days after achieving the maximum production rate at which **S2.361P** will be operated, but no later than 180 days after initial startup of the facility, the Permittee will conduct a Method 5/202 (filterable + condensable particulate) performance test for PM emissions, or a Method 201A/202 performance test for PM<sub>10</sub> emissions, consisting of 3 valid runs. The sample volume for each test run shall be at least 60 DSCF, and test runs must be conducted for up to two hours in an effort to collect this minimum sample. The results of this test will consist of the average of three valid runs. The Method 5 performance test must be conducted in accordance with 40 CFR Part 60, Appendix A. The Method 201A and 202 performance tests must be conducted in accordance with 40 CFR Part 51, Appendix M. All particulate captured in the Method 5/202 test shall be considered PM<sub>10</sub> emissions for compliance demonstration purposes.
- (2) Within 60 days after achieving the maximum production rate at which **S2.361P** will be operated, but no later than 180 days after initial startup of the facility, Permittee will conduct and record the following performance tests (or equivalent EPA reference methods as approved in advance by the Director) on the exhaust stack of **S2.361P**:
  - (i) A Method 7E for NO<sub>x</sub>.
  - (ii) A Method 10 for CO.
  - (iii) A Method 25A for VOC.Each test in W.3.d.(2)(i) through (iii) above will be run for a minimum of 1-hour, and the results of the tests for each pollutant will consist of the average of three 1-hour, or longer, runs.
- (3) Within 60 days after achieving the maximum production rate at which **S2.361P** will be operated, but no later than 180 days after initial startup of the facility, the Permittee shall determine compliance with the opacity standard established in W.3.a. of this section by conducting visible emissions test on the exhaust stack of **S2.361P** while operating. The Method 9 test will be performed at the same time as the particulate matter testing described in W.3.d.(1) above. The initial opacity test shall be performed using EPA Method 9 as specified in 40 CFR Part 60, Appendix A. The time of observations shall be 6-minutes (24 consecutive readings at 15-second intervals). The Method 9 performance tests shall be conducted by a certified visible emissions reader in accordance with procedures specified in 40 CFR Part 60, Appendix A, Method 9.
- (4) Permittee will record the amount of liquid propane combusted, in gallons, during each test run.
- (5) Tests of performance must be conducted under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

##### **W. Emission Unit S2.361P (continued)**

##### **3. Operating Requirements NAC 445B.3365.3 (continued)**

##### **d. Performance Test Methods and Procedures (NAC 445B.3365)(continued)**

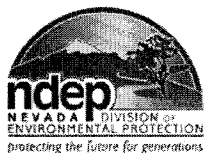
- (6) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (7) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8 and I.R.3. through I.R.8. of this operating permit for all performance testing.

##### **4. Reporting NAC 445B.3365**

Within 60 days after completing the initial performance tests and opacity observations required in W.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial performance tests and the opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

##### **5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**X. Emission Unit S2.362NG**

Location North 4536.401 km, East 554.477 km, UTM (Zone 11)

<b>System 142A – TS Regen Heater (Natural Gas) – ADDED Month, Day 2013</b>
<b>S 2.362NG TS Regen Heater (7 MMBtu, Natural Gas-fired)</b>

**Descriptive Stack Parameters**

Stack Height (ft): 61.5  
Stack Diameter (ft): 1.67  
Stack Temperature (°F): 400  
Stack Exit Velocity (fps): 24.1  
Exhaust Flow (ACFM): 3,154  
Exhaust Flow (DSCFM): 1,900

**1. Air Pollution Equipment**

S2.362NG has no add-on controls.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.362NG is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.362NG, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.362NG, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements NAC 445B.3365.3**

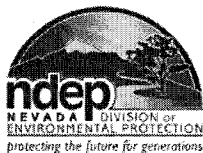
**a. Emission Limits NAC 445B.305**

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.362NG the following pollutants in excess of the following specified limits:

- (1) The discharge of PM (particulate matter) to the atmosphere will not exceed 0.08 pound per hour, nor more than 0.17 ton per year.
- (2) The discharge of PM<sub>10</sub> (particulate matter less than 10 microns) to the atmosphere will not exceed 0.08 pound per hour, nor more than 0.17 ton per year.
- (3) The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 0.12 pound per hour, nor more than 0.26 ton per year.
- (4) The discharge of NO<sub>x</sub> (nitrogen oxides) to the atmosphere will not exceed 1.49 pounds per hour, nor more than 3.27 tons per year.
- (5) The discharge of CO (carbon monoxide) to the atmosphere will not exceed 1.15 pounds per hour, nor more than 2.51 tons per year.
- (6) The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.18 pound per hour, nor more than 0.40 ton per year.
- (7) The opacity from the exhaust stack of S2.362NG will not equal or exceed 20 percent in accordance with NAC 445B.22017.

**b. Operating Parameters NAC 445B.305**

- (1) System 142A is the primary operating scenario for S2.362NG and will combust only pipeline quality natural gas as the primary fuel.
- (2) The maximum pipeline quality natural gas consumption rate for S2.362NG will not exceed 6,863 standard cubic feet (SCF) per any one-hour period.
- (3) **Hours**  
S2.362NG may operate up to 4,380 hours per calendar year.



## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

## **Section V. Specific Operating Conditions (continued)**

### **X. Emission Unit S2.362NG (continued)**

#### **3. Operating Requirements NAC 445B.3365.3 (continued)**

##### **c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of S2.362NG, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily consumption of natural gas, in SCF, for each day of operation.
- (3) Monitor and record the hours of operation for S2.362NG during each day of operation.
- (4) Maintain on-site and make available upon request, certification by the fuel supplier that the natural gas delivered to the Permittee for use in S2.362NG is pipeline quality natural gas.
- (5) Monitor and record the daily average hourly natural gas consumption rate (in SCF per hour) using the monitoring required in X.3.c.(2) and X.3.c.(3) above.
- (6) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of S2.362NG on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.

##### **d. Test Methods and Procedures (NAC 445B.3365.3)**

The Permittee shall demonstrate compliance with the emission limits established in X.3.a. of this section by conducting the following performance tests on the exhaust stack of S2.362NG:

- (1) Within 60 days after achieving the maximum production rate at which S2.362NG will be operated, but no later than 180 days after initial startup of the facility, the Permittee shall determine compliance with the opacity standard established in X.3.a. of this section by conducting visible emissions test on the exhaust stack of S2.362NG while operating. The initial opacity test shall be performed using EPA Method 9 as specified in 40 CFR Part 60, Appendix A. The time of observations shall be 6-minutes (24 consecutive readings at 15-second intervals). The Method 9 performance tests shall be conducted by a certified visible emissions reader in accordance with procedures specified in 40 CFR Part 60, Appendix A, Method 9.
- (2) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (3) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

#### **4. Reporting NAC 445B.3365**

Within 60 days after completing the initial opacity observations required in X.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

#### **5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

**Y. Emission Unit S2.362P**

Location North 4536.401 km, East 554.477 km, UTM (Zone 11)

<b>System 142B – TS Regen Heater (Propane) – Alt. Scenario – ADDED Month, Day 2013</b>
<b>S 2.362P TS Regen Heater (7 MMBtu, Propane-fired)</b>

**Descriptive Stack Parameters**

Stack Height (ft): 61.5  
Stack Diameter (ft): 1.67  
Stack Temperature (°F): 400  
Stack Exit Velocity (fps): 24.1  
Exhaust Flow (ACFM): 3,154  
Exhaust Flow (DSCFM): 1,900

**1. Air Pollution Equipment**

S2.362P has no add-on controls.

**2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.362P is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.362P, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.362P, postmarked within 15 days after such date (NAC 445B.250.3).

**3. Operating Requirements (NAC 445B.3365.3)**

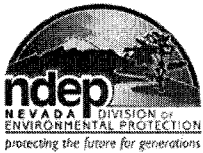
**a. Emission Limits NAC 445B.305**

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.362P the following pollutants in excess of the following specified limits:

- The discharge of PM (particulate matter) to the atmosphere will not exceed 0.08 pound per hour, nor more than 0.17 ton per year.
- The discharge of PM<sub>10</sub> (particulate matter less than 10 microns) to the atmosphere will not exceed 0.08 pound per hour, nor more than 0.17 ton per year.
- The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 0.12 pound per hour, nor more than 0.26 ton per year.
- The discharge of NO<sub>x</sub> (nitrogen oxides) to the atmosphere will not exceed 1.49 pounds per hour, nor more than 3.27 tons per year.
- The discharge of CO (carbon monoxide) to the atmosphere will not exceed 1.15 pounds per hour, nor more than 2.51 tons per year.
- The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.18 pound per hour, nor more than 0.40 ton per year.
- The opacity from the exhaust stack of S2.362P will not equal or exceed 20 percent in accordance with NAC 445B.22017.

**b. Operating Parameters NAC 445B.305**

- System 142B (S2.362P) is the alternative operating scenario for S2.362NG and will combust only propane (liquefied petroleum gas) as the alternative fuel.
- The maximum liquid propane consumption rate for S2.362P will not exceed 77.0 gallons per any one-hour period.
- The liquid propane combusted in S2.362P will not exceed 185 ppm (by weight) sulfur.
- Hours**  
S2.362P may operate up to 4,380 hours per calendar year.



## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

**Y. Emission Unit S2.362P (continued)**

**3. Operating Requirements NAC 445B.3365.3 (continued)**

**c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of **S2.362P**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily consumption of liquid propane for **S2.362P**, in gallons, for each day of operation.
- (3) Monitor and record the hours of operation for **S2.362P** during each day of operation.
- (4) Maintain on-site and make available upon request, certification by the fuel supplier that the liquid propane delivered to the Permittee for use in **S2.362P** does not exceed the sulfur limit specified in Y.3.b.(3) above.
- (5) Monitor and record the daily average hourly liquid propane consumption rate (in gallons per hour) using the monitoring required in Y.3.c.(2) and Y.3.c.(3) above.
- (6) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of **S2.362P** on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.

**d. Performance Test Methods and Procedures (NAC 445B.3365)**

The Permittee shall demonstrate compliance with the emission limits established in Y.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.362P**:

- (1) Within 60 days after achieving the maximum production rate at which **S2.362P** will be operated, but no later than 180 days after initial startup of the facility, the Permittee shall determine compliance with the opacity standard established in Y.3.a. of this section by conducting visible emissions test on the exhaust stack of **S2.362P** while operating. The initial opacity test shall be performed using EPA Method 9 as specified in 40 CFR Part 60, Appendix A. The time of observations shall be 6-minutes (24 consecutive readings at 15-second intervals). The Method 9 performance tests shall be conducted by a certified visible emissions reader in accordance with procedures specified in 40 CFR Part 60, Appendix A, Method 9.
- (2) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (3) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial opacity observations required in Y.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### Z. Emission Unit S2.363NG

Location North 4,536.295 km, East 554.681 km, UTM (Zone 11)

**System 143A – Resin Regen Heater 1 (Natural Gas) – ADDED Month, Day 2013**  
**S 2.363NG Resin Regen Heater 1 (5 MMBtu, Natural Gas-fired)**

##### Descriptive Stack Parameters

Stack Height (ft): 36  
Stack Diameter (ft): 1.33  
Stack Temperature (°F): 400  
Stack Exit Velocity (fps): 40.6  
Exhaust Flow (ACFM): 3,400  
Exhaust Flow (DSCFM): 2,100

##### **1. Air Pollution Equipment**

S2.363NG has no add-on controls.

##### **2. Construction Requirements**

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.363NG is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.363NG, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.363NG, postmarked within 15 days after such date (NAC 445B.250.3).

##### **3. Operating Requirements NAC 445B.3365.3**

###### **a. Emission Limits NAC 445B.305**

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.363NG the following pollutants in excess of the following specified limits:

- The discharge of PM (particulate matter) to the atmosphere will not exceed 0.06 pound per hour, nor more than 0.24 ton per year.
- The discharge of PM<sub>10</sub> (particulate matter less than 10 microns) to the atmosphere will not exceed 0.06 pound per hour, nor more than 0.24 ton per year.
- The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 0.09 pound per hour, nor more than 0.37 ton per year.
- The discharge of NO<sub>x</sub> (nitrogen oxides) to the atmosphere will not exceed 1.07 pounds per hour, nor more than 4.66 tons per year.
- The discharge of CO (carbon monoxide) to the atmosphere will not exceed 0.82 pounds per hour, nor more than 3.59 tons per year.
- The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.13 pound per hour, nor more than 0.57 ton per year.
- The opacity from the exhaust stack of S2.363NG will not equal or exceed 20 percent in accordance with NAC 445B.22017.

###### **b. Operating Parameters NAC 445B.305**

- System 143A is the primary operating scenario for S2.363NG and will combust only pipeline quality natural gas as the primary fuel.
- The maximum pipeline quality natural gas consumption rate for S2.363NG will not exceed 4,902 standard cubic feet (SCF) per any one-hour period.
- Hours**  
S2.363NG may operate up to 8,760 hours per calendar year.

###### **c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of S2.363NG, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- The calendar date of any required monitoring and recordkeeping.
- Monitor and record the daily consumption of natural gas, in SCF, for each day of operation.
- Monitor and record the hours of operation for S2.363NG during each day of operation.
- Maintain on-site and make available upon request, certification by the fuel supplier that the natural gas delivered to the Permittee for use in S2.363NG is pipeline quality natural gas.
- Monitor and record the daily average hourly natural gas consumption rate (in SCF per hour) using the monitoring required in Z.3.c.(2) and Z.3.c.(3) above.
- Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of S2.363NG on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.





## BUREAU OF AIR POLLUTION CONTROL

**Facility ID No. A0005**

**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section V. Specific Operating Conditions (continued)**

##### **Z. Emission Unit S2.363NG (continued)**

##### **3. Operating Requirements NAC 445B.3365.3 (continued)**

##### **d. Test Methods and Procedures (NAC 445B.3365.3)**

The Permittee shall demonstrate compliance with the emission limits established in Z.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.363NG**:

- (1) Within 60 days after achieving the maximum production rate at which **S2.363NG** will be operated, but no later than 180 days after initial startup of the facility, the Permittee shall determine compliance with the opacity standard established in Z.3.a. of this section by conducting visible emissions test on the exhaust stack of **S2.363NG** while operating. The initial opacity test shall be performed using EPA Method 9 as specified in 40 CFR Part 60, Appendix A. The time of observations shall be 6-minutes (24 consecutive readings at 15-second intervals). The Method 9 performance tests shall be conducted by a certified visible emissions reader in accordance with procedures specified in 40 CFR Part 60, Appendix A, Method 9.
- (2) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (3) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

##### **4. Reporting NAC 445B.3365**

Within 60 days after completing the initial opacity observations required in Z.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

##### **5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### AA. Emission Unit S2.363P

Location North 4,536.295 km, East 554.681 km, UTM (Zone 11)

System 143B – Resin Regen Heater 1 (Propane) – Alt. Scenario – ADDED Month, Day 2013  
S 2.363P Resin Regen Heater 1 (5 MMBtu, Propane-fired)

##### Descriptive Stack Parameters

Stack Height (ft): 36  
Stack Diameter (ft): 1.33  
Stack Temperature (°F): 400  
Stack Exit Velocity (fps): 40.6  
Exhaust Flow (ACFM): 3,400  
Exhaust Flow (DSCFM): 2,100

##### 1. Air Pollution Equipment

S2.363P has no add-on controls.

##### 2. Construction Requirements

Notification and Recordkeeping (NAC 445B.250)

The Permittee shall provide the Director the following:

- A notification of the date of construction of S2.363P is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.363P, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.363P, postmarked within 15 days after such date (NAC 445B.250.3).

##### 3. Operating Requirements (NAC 445B.3365.3)

###### a. Emission Limits NAC 445B.305

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.363P the following pollutants in excess of the following specified limits:

- The discharge of PM (particulate matter) to the atmosphere will not exceed 0.06 pound per hour, nor more than 0.24 ton per year.
- The discharge of PM<sub>10</sub> (particulate matter less than 10 microns) to the atmosphere will not exceed 0.06 pound per hour, nor more than 0.24 ton per year.
- The discharge of SO<sub>2</sub> (sulfur dioxide) to the atmosphere will not exceed 0.09 pound per hour, nor more than 0.37 ton per year.
- The discharge of NO<sub>x</sub> (nitrogen oxides) to the atmosphere will not exceed 1.07 pounds per hour, nor more than 4.66 tons per year.
- The discharge of CO (carbon monoxide) to the atmosphere will not exceed 0.82 pounds per hour, nor more than 3.59 tons per year.
- The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 0.13 pound per hour, nor more than 0.57 ton per year.
- The opacity from the exhaust stack of S2.363P will not equal or exceed 20 percent in accordance with NAC 445B.22017.

###### b. Operating Parameters NAC 445B.305

- System 143B (S2.363P) is the alternative operating scenario for S2.363NG and will combust only propane (liquefied petroleum gas) as the alternative fuel.
- The maximum liquid propane consumption rate for S2.363P will not exceed 55.0 gallons per any one-hour period.
- The liquid propane combusted in S2.363P will not exceed 185 ppm (by weight) sulfur.
- Hours  
S2.363P may operate up to 8,760 hours per calendar year.



**BUREAU OF AIR POLLUTION CONTROL**

**Facility ID No. A0005**

**Permit No. AP1041-2805**

**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section V. Specific Operating Conditions (continued)**

**AA. Emission Unit S2.363P (continued)**

**3. Operating Requirements NAC 445B.3365.3 (continued)**

**c. Monitoring and Recordkeeping NAC 445B.3365**

On and after the date of startup of **S2.363P**, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the daily consumption of liquid propane for **S2.363P**, in gallons, for each day of operation.
- (3) Monitor and record the hours of operation for **S2.363P** during each day of operation.
- (4) Maintain on-site and make available upon request, certification by the fuel supplier that the liquid propane delivered to the Permittee for use in **S2.363P** does not exceed the sulfur limit specified in AA.3.b.(3) above.
- (5) Monitor and record the daily average hourly liquid propane consumption rate (in gallons per hour) using the monitoring required in AA.3.c.(2) and AA.3.c.(3) above.
- (6) Conduct and record a Method 22 visible emissions test (excluding water vapor) on the exhaust vent of **S2.363P** on a monthly basis while operating. The Method 22 test shall be conducted in accordance with 40 CFR Part 60, Appendix A. If the Method 22 test detects any visible emissions, the Permittee must conduct and record a Method 9 visible emissions test. Each Method 9 visible emissions test must be conducted by a certified visible emissions reader in accordance with 40 CFR Part 60, Appendix A.

**d. Performance Test Methods and Procedures (NAC 445B.3365)**

The Permittee shall demonstrate compliance with the emission limits established in AA.3.a. of this section by conducting the following performance tests on the exhaust stack of **S2.363P**:

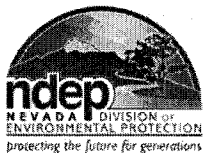
- (1) Within 60 days after achieving the maximum production rate at which **S2.363P** will be operated, but no later than 180 days after initial startup of the facility, the Permittee shall determine compliance with the opacity standard established in AA.3.a. of this section by conducting visible emissions test on the exhaust stack of **S2.363P** while operating. The initial opacity test shall be performed using EPA Method 9 as specified in 40 CFR Part 60, Appendix A. The time of observations shall be 6-minutes (24 consecutive readings at 15-second intervals). The Method 9 performance tests shall be conducted by a certified visible emissions reader in accordance with procedures specified in 40 CFR Part 60, Appendix A, Method 9.
- (2) The owner of an affected facility shall give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
- (3) Permittee shall comply with the requirements of Section I.Q.3. through I.Q.8. and I.R.3. through I.R.8. of this operating permit for all performance testing.

**4. Reporting NAC 445B.3365**

Within 60 days after completing the initial opacity observations required in AA.3.d. of this section, the Permittee shall furnish the Director a written report of the results of the initial opacity observations. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

**5. Class I Operating Permit Application**

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).



## BUREAU OF AIR POLLUTION CONTROL

Facility ID No. A0005

Permit No. AP1041-2805

### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### BB. Emission Unit S2.364

Location North 4,536.292 km, East 554.548 km, UTM (Zone 11)

System 144 – RIL Emergency Generator – ADDED Month, Day 2013

S 2.364 RIL Emergency Generator (3,634 HP – 2,500 kW) – Cat 3516C (Manu. 2013)

##### Descriptive Stack Parameters

Stack Height (ft): 15

Stack Diameter (ft): 1.0

Stack Temperature (°F): 915

Stack Exit Velocity (fps): 416

Exhaust Flow (ACFM): 19,600

Exhaust Flow (DSCFM): 7,555

##### 1. Air Pollution Equipment

S2.364 has no add-on controls.

##### 2. Construction Requirements

Notification and Recordkeeping (40 CFR 60.7, NAC 445B.250)

The Permittee shall provide the Director the following:

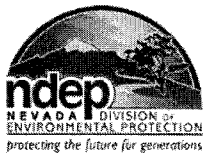
- A notification of the date construction of S2.364 is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form (40 CFR 60.7(a)(1); NAC 445B.250.1)
- A notification of the anticipated date of initial startup of S2.364, postmarked not more than 60 days nor less than 30 days prior to such date (NAC 445B.250.2).
- A notification of the actual date of initial startup of S2.364, postmarked within 15 days after such date (40 CFR 60.7(a)(3); NAC 445B.250.3).
- A notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in §60.14(e). This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected completion date of the change. The Administrator may request additional relevant information subsequent to this notice (40 CFR 60.7(a)(4)).

##### 3. Operating Requirements (NAC 445B.3365.3)

###### a. Emission Limits (NAC 445B.305)(40 CFR 60.4200 et. seq.)

On and after the date of startup, the Permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of S2.364 the following pollutants in excess of the following specified limits:

- The discharge of PM to the atmosphere will not exceed 1.20 pounds per hour, nor more than 0.06 ton per year.
- The discharge of PM<sub>10</sub> to the atmosphere will not exceed 1.20 pounds per hour, nor more than 0.06 ton per year.
- The discharge of SO<sub>2</sub> to the atmosphere will not exceed 0.04 pound per hour, nor more than 0.002 ton per year.
- The discharge of NO<sub>x</sub> to the atmosphere will not exceed 38.22 pounds per hour, nor more than 1.91 tons per year.
- The discharge of CO to the atmosphere will not exceed 20.91 pounds per hour, nor more than 1.05 tons per year.
- The discharge of VOC to the atmosphere will not exceed 7.77 pounds per hour, nor more than 0.39 ton per year.
- New Source Performance Standards (NSPS) – Standards of Performance for Stationary Compression Ignition (CI) Internal Combustion Engines (ICE)** (40 CFR Part 60, Subpart IIII, 40 CFR 60.4200 et. seq.).
  - The discharge of PM to the atmosphere will not exceed 0.20 g/kW-hr (40 CFR 60.4205(b), 60.4202(b)(2) – Tier 2 standards for engines > 560 kW, 40 CFR 89.112(a), Table 1).
  - The discharge of NO<sub>x</sub> + NMHC (non-methane hydrocarbons) to the atmosphere will not exceed 6.4 g/kW-hr (40 CFR 60.4205(b), 60.4202(b)(2) – Tier 2 standards for engines > 560 kW, 40 CFR 89.112(a), Table 1).
  - The discharge of CO to the atmosphere will not exceed 3.5 g/kW-hr (40 CFR 60.4205(b), 60.4202(b)(2) – Tier 2 standards for engines > 560 kW, 40 CFR 89.112(a), Table 1).
- National Emission Standards for Hazardous Air Pollutants (NESHAP) – NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)**, 40 CFR Part 63, Subpart ZZZZ (40 CFR 63.6580 et. seq.) – New or Reconstructed stationary RICE located at an Area Source (40 CFR 6590(c)(1)). No further requirements under 40 CFR Part 63, Subpart ZZZZ apply to stationary RICE meeting the requirements of 40 CFR Part 60, Subpart IIII (40 CFR 63.6590(c)).
- The opacity from S2.364 will not equal or exceed 20 percent in accordance with NAC 445B.22017.



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section V. Specific Operating Conditions (continued)

##### BB. Emission Unit S2.364 (continued)

##### 3. Operating Requirements (NAC 445B.3365.3)(continued)

##### b. Operating Parameters (NAC 445B.305; 40 CFR 60.4200 et. seq.)

- (1) Unit S2.364 may combust only diesel as the primary fuel.
- (2) The maximum diesel fuel consumption rate will not exceed 184.3 gallons per hour.
- (3) The diesel fuel sulfur limit will not exceed 15 ppm by weight.
- (4) Unit S2.364 may operate not more than 100 hours per year for non-emergency use. There is no time limit on operation in emergency situations.
- (5) Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in 40 CFR 60.4205, as set forth in BB.3.a.(7) above, according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer, over the entire life of the engine (40 CFR 60.4206).
- (6) If you (Permittee) are an owner or operator of an emergency stationary CI internal combustion engine, you must install a non-resettable hour meter prior to startup of the engine (40 CFR 60.4209(a)).

##### c. Monitoring and Recordkeeping NAC 445B.3365

On and after the date of startup of S2.364, Permittee will maintain in a contemporaneous log, the following monitoring and recordkeeping:

- (1) The calendar date of any required monitoring and recordkeeping.
- (2) Monitor and record the hours of operation on a daily basis; Permittee will delineate between emergency and non-emergency operation.
- (3) Monitor and record the amount of diesel fuel consumed (in gallons) on a daily basis by multiplying the maximum hourly fuel consumption rate as determined by the manufacturer of the emergency diesel engine (see Operating Parameters) and the total daily hours of operation recorded above.

##### d. 40 CFR Part 60, Subpart IIII Compliance Requirements for Owners and Operators (40 CFR 60.4211)

- (1) If you (Permittee) are an owner or operator and must comply with the emission standards specified in 40 CFR Part 60, Subpart IIII, you must operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's written instructions or procedures developed by the owner or operator that are approved by the engine manufacturer. In addition, owners and operators may only change those settings that are permitted by the manufacturer (40 CFR 60.4211(a)).
- (2) If you (Permittee) are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in 40 CFR 60.4202(b), as set forth in BB.3.a.(7) of this section, you must comply by purchasing an engine certified to the emission standards in 40 CFR 60.4205(b), as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications (40 CFR 60.4211(c)).
- (3) Emergency stationary ICE may be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. There is no time limit on the use of emergency stationary ICE in emergency situations. Anyone may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating Federal, State, or local standards require maintenance and testing of emergency ICE beyond 100 hours per year. For owners and operators of emergency engines meeting standards under 40 CFR 60.4205 but not 40 CFR 60.4204, any operation other than emergency operation, and maintenance and testing as permitted in this section, is prohibited (40 CFR 60.4211(e)).

##### e. 40 CFR Part 60, Subpart IIII Testing Requirements for Owners and Operators (40 CFR 60.4212)

Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR Part 89.112 must not exceed the NTE (not-to-exceed) numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112, determined as 1.25 times the standard in 40 CFR 89.112 (40 CFR 60.4212(c)).

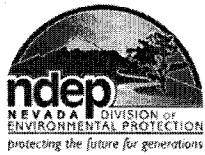
##### f. 40 CFR Part 60, Subpart IIII Notification, Reporting, and Recordkeeping Requirements for Owners and Operators (40 CFR 60.4214)

If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in Table 5 to 40 CFR Part 60, Subpart IIII, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time (40 CFR 60.4214(b)).

##### 4. Class I Operating Permit Application

An operating permit to construct expires if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the date of initial start-up (NAC 445B.3366.4).

\*\*\*\*\*End of Specific Operating Conditions\*\*\*\*\*

**BUREAU OF AIR POLLUTION CONTROL****Facility ID No. A0005****Permit No. AP1041-2805****CLASS I OPERATING PERMIT TO CONSTRUCT****Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)**Section VI. Mercury Emission Standards****A. NESHAP for the Gold Mine Ore Processing and Production Area Source Category – 40 CFR Part 63, Subpart EEEEEEE (40 CFR 63.11640 et. seq.) – Carbon Processes with Retorts****1. Affected Source – Carbon Processes with Retorts (40 CFR 63.11640)**

The process units in Table VI-1 define the existing affected source for carbon processes with retorts.

Table VI - 1	
40 CFR Part 63, Subpart EEEEEEE Affected Source - Carbon Processes with Retorts	
Process Unit Description	Applicable Control Devices
System 61 - S2.004.1, S2.004.3, S2.004.4 - Carbon Kiln #2 (Drum) and Pregnant Tanks A & B	6 Ton Carbon Bed and 1.65 Ton Carbon Bed
System 67 - S2.009 - S2.011 & S2.341 - Mercury Retorts #1-#4	Carbon Filter
System 68 - S2.013, S2.014, and S2.344 – West and East Melting Furnaces and Electrowinning Cells	Carbon Adsorber
System 131 - S2.342.1 – S2.342.3 - RIL Circuit EW Cells and PB Tanks A & B	Carbon Adsorber

**2. Compliance Dates (40 CFR 63.11641)**

Permittee must comply with the provisions of Subpart EEEEEEE, as they apply to the process units in Table VI-1 of this section, no later than February 17, 2014.

**3. Mercury Emission Standards (40 CFR 63.11645)**

Permittee will not discharge or cause to be discharged from the assemblage of process units listed in Table VI-1 of this section, combined mercury emissions in excess of the following limit for the affected source:

- a. For existing carbon processes with mercury retorts, Permittee must emit no more than 2.2 pounds of mercury per ton of concentrate (precious metal concentrate) processed (40 CFR 63.11645(b)).

**4. Compliance Tests (40 CFR 63.11646, NAC 445B.3365.3 (b))**

- a. Permittee must conduct a mercury compliance test within 180 days of the compliance date for all process units at the existing carbon processes with retorts affected source. This compliance testing must be repeated annually, with no two consecutive annual compliance tests occurring less than 3 months apart or more than 15 months apart (40 CFR 63.11646(a)). Permittee must determine the concentration of mercury and the volumetric flow rate of the stack gas from the emission units listed in Table VI-1 according to the following test methods and procedures (40 CFR 63.11646(a)(1)):

- (1) Method 1 or 1A (40 CFR Part 60, Appendix A-1) to select sampling port locations and the number of traverse points in each stack or duct. Sampling sites must be located at the outlet of the control device (or at the outlet of the emissions source if no control device is present) and prior to any releases to the atmosphere.
- (2) Method 2, 2A, 2C, 2D, 2F (40 CFR Part 60, Appendix A-1), or Method 2G (40 CFR Part 60, Appendix A-2) to determine the volumetric flow rate of the stack gas.
- (3) Method 3, 3A, or 3B (40 CFR Part 60, Appendix A-2) to determine the dry molecular weight of the stack gas. The Permittee may use ANSI/ASME PTC 19.10, "Flue and Exhaust Gas Analyses." (IBR – see 40 CFR 63.14 as an alternative to Method 3B)
- (4) Method 4 (40 CFR Part 60, Appendix A-3) to determine the moisture content of the stack gas.
- (5) Method 29 (40 CFR Part 60, Appendix A-8) to determine the concentration of mercury, except as provided below.
- (6) Upon approval by the Nevada Bureau of Air Pollution Control (NBAPC), Permittee may use ASTM D6784, "Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)," as an alternative to Method 29 to determine the concentration of mercury.
- (7) Upon approval by the NBAPC, Permittee may use Method 30B (40 CFR Part 60, Appendix A-8) as an alternative to Method 29 to determine the concentration of mercury for those process units with relatively low particulate-bound mercury as specified in Section 1.2 of Method 30B.



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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section VI. Mercury Emission Standards (continued)

**A. NESHAP for the Gold Mine Ore Processing and Production Area Source Category – 40 CFR Part 63, Subpart EEEEEEE (40 CFR 63.11640 et. seq.) – Carbon Processes with Retorts (continued)**

**4. Compliance Tests (40 CFR 63.11646)(continued)**

- b. A minimum of three test runs must be conducted for each performance test of each process unit. Each test run conducted with Method 29 must follow the sampling requirements in 40 CFR 63.11646(a)(2). If conducted with Method 30B or ASTM D6784, determine sample time and volume according to the testing criteria set forth in the relevant method. If the emissions testing results for any of the emission points yields a non-detect value, then the minimum detection limit (MDL) must be used to calculate the mass emission rates (lb/hr) used to calculate the emission factor (lb/ton) for that emission point and, in turn, for calculating the sum of the emissions (in units of pounds of mercury per ton of concentrate) for all emission points subject to the emission standard for determining compliance. If the resulting mercury emissions are greater than the MACT emission standard, the owner or operator may use procedures that produce lower MDL results and repeat the mercury emissions testing one additional time for any emission point for which the measured result was below the MDL. If this additional testing is performed, the results from that testing must be used to determine compliance (40 CFR 63.11646(a)(2)).
- c. Performance tests shall be conducted under such conditions as the Administrator specifies to the owner or operator based on representative performance of the affected source for the period being tested. Upon request, the owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. Performance tests must be conducted under operating conditions (including process or production throughputs) that are based on representative performance. Record and report to the NBAPC the process throughput for each test run. For sources with multiple emission units ducted to a common control device and stack, compliance testing must be performed either by conducting a single compliance test with all affected emissions units in operation or by conducting a separate compliance test on each emission unit. Alternatively, the Permittee may request approval from the NBAPC for an alternative testing approach. If the units are tested separately, any emissions unit that is not tested initially must be tested as soon as is practicable. If the performance test is conducted when all affected units are operating, then the number of hours of operation used for calculating emissions must be the total number of hours for the unit that has the greatest total operating hours for that period of time, or based on an appropriate alternative method approved by the NBAPC to account for the hours of operation for each separate unit in these calculations (40 CFR 63.11646(a)(3)).
- d. Permittee will calculate the mercury emission rate (lb/hr), based on the average of 3 test run values, for the emission units in Table VI-1 (or combination of units that are ducted to a common stack and are tested when all affected sources are operating) using the following equation (40 CFR 63.11646(a)(4)):

$$E = C_s * Q_s * K \quad \text{Equation 1}$$

Where, E = Mercury emissions in lb/hr.

C<sub>s</sub> = Concentration of mercury in the stack gas, in grains per dry standard cubic foot (gr/DSCF);

Q<sub>s</sub> = Volumetric flow rate of the stack gas, in dry standard cubic feet per hour (DSCFH);

K = Conversion factor for grains (gr) to pounds (lb), 1.43 x 10<sup>-4</sup>.

- e. Permittee will monitor and record the gas stream temperature (in °F) to the inlet of the carbon adsorber control for each of the process units in Table VI-1 during each test run (NAC 445B.3365.3(b)).
5. **Initial Compliance Determination 40 CFR 63.11646(a)(12)**  
Permittee will calculate the emissions from the existing carbon processes with retorts affected source for the sum of all full months between the compliance date and the date of the initial compliance test in pounds of mercury per ton process input (concentrate processed) using the procedure specified in 5.a. below to determine initial compliance with the mercury emission standard in A.3.a. of this section. This must include at least 1 full month of data. After this initial compliance test period, determine annual compliance in accordance with A.6. of this section.
- a. For carbon processes with mercury retorts, divide the sum of mercury mass emissions (in pounds), as determined pursuant to A.7.b. of this section, from all carbon kilns, preg tanks, electrowinning, mercury retorts, and melt furnaces during the initial number of full months between the compliance date and the initial compliance tests, by the total amount of concentrate (in tons) processed in these process units, and as determined pursuant to A.8. of this section, during those same full months following the compliance date. If a previous test is used to determine initial compliance, then the same 3 to 12 full months of production data (i.e. tons of concentrate) and hours of operation must be used to determine the emissions in pounds of mercury per ton of concentrate (40 CFR 63.11646(a)(12)(ii)).
6. **Annual Compliance Determination 40 CFR 63.11646(a)(13)**  
After the initial compliance test, Permittee will calculate the emissions from the existing carbon processes with retorts affected source for each 12-month period preceding each subsequent compliance test in pounds of mercury per ton of process input (concentrate processed), using the procedure specified in 6.a. below, to determine compliance with the mercury emission standard in A.3.a. of this section.
- a. For carbon processes with mercury retorts, divide the sum of mercury mass emissions (in pounds) from all carbon kilns, preg tanks, electrowinning, mercury retorts, and melt furnaces in the 12-month period preceding a compliance test by the total amount of concentrate (in tons) processed in these process units in that 12-month period (40 CFR 63.11646(a)(13)(ii)).





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### CLASS I OPERATING PERMIT TO CONSTRUCT

Issued to: Barrick Goldstrike Mines, Inc. (as Permittee)

#### Section VI. Mercury Emission Standards (continued)

**A. NESHA for the Gold Mine Ore Processing and Production Area Source Category – 40 CFR Part 63, Subpart EEEEEEE (40 CFR 63.11640 et. seq.) – Carbon Processes with Retorts (continued)**

7. **Determination of Total Mercury Emissions** (40 CFR 63.11646)
  - a. Permittee will monitor and record the number of one-hour periods each process unit in Table VI-1 operated during each month (40 CFR 63.11646(a)(5)).
  - b. For the initial compliance determination, Permittee will determine the total mercury emissions for all the full calendar months between the compliance date and the date of the initial compliance test by multiplying the emission rate in lb/hr for the process units in Table VI-1, each, (or combination of units ducted to a common stack that are tested together) by the number of one-hour periods the process units in Table VI-1, each, operated during those full calendar months prior to the initial compliance test. This initial period must include at least 1 full month of operations. After the initial compliance test, for subsequent compliance tests, determine the mercury mass emissions for the 12 full calendar months prior to the compliance test in accordance with the procedures in 7.c. below. Existing sources may use a previous emission test for their initial compliance determination in lieu of conducting a new test if the test was conducted within one year of the compliance date using the methods specified in A.4.a through A.4.d. of this section, and the tests were representative of current operating processes and conditions. If a previous test is used for their initial compliance determination, 3 to 12 full months of data on hours of operation and production (tons of concentrate), including the month the test was conducted, must be used to calculate the emissions rate (in units of pounds of mercury per ton of concentrate) (40 CFR 63.11646(a)(6)).
  - c. For compliance determinations following the initial compliance test, Permittee will determine the total mercury mass emissions for each process unit for the 12 full calendar months preceding the performance test by multiplying the emission rate in lb/hr for each process unit (or combination of units ducted to a common stack that are tested together) by the number of one-hour periods each process unit (or the unit that had the greatest total operating hours among the combination of multiple units with one stack that are tested together, or an alternative method approved by the NBAPC) operated during the 12 full calendar months preceding the completion of the performance tests (40 CFR 63.11646(a)(7)).
8. **Determination of Concentrate Throughput** (40 CFR 63.11646)
  - a. Measure the weight of concentrate (precious metal precipitate) using weigh scales for each batch prior to processing in each of the retorts. The concentrate must be weighed in the same state and condition as it is when fed to each of the retorts. For facilities that ship concentrate off-site, measure the weight of concentrate as shipped off-site. You (Permittee) must keep accurate records of the weights of each batch of concentrate processed and calculate, and record the total weight of concentrate processed each month (40 CFR 63.11646(a)(9)).
  - b. Record the weight in tons of concentrate on a daily and monthly basis (40 CFR 63.11646(a)(11)).
9. **Operation and Maintenance Requirements** (40 CFR 63.11646)

At all times, you (Permittee) must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source (40 CFR 63.11646(b)).
10. **Carbon Adsorber Compliance Monitoring** (40 CFR 63.11647(f))

You (Permittee) must monitor each of the process units that have a carbon filter (carbon adsorber or carbon bed) control device, as specified in Table VI-1 of this section, using the procedures in 10.a. or 10.b. below:

  - a. Continuously sample and analyze the exhaust stream from the carbon adsorber for mercury using Method 30B (40 CFR Part 60, Appendix A-8) for a duration of at least the minimum sampling time specified in Method 30B and up to one week that includes the period of the annual performance test.
    - (1) Establish an upper operating limit for the process as determined using the mercury concentration measurements from the sorbent trap (Method 30B) as calculated from Equation 2 below (40 CFR 63.11647(f)(1)(i)):

$$OLC = C_{\text{trap}} * (EL/CT)$$

Equation 2

Where, OLC = Mercury concentration operating limit for the carbon adsorber control device on the process as measured using the sorbent trap ( $\mu\text{g}/\text{m}^3$ ).

$C_{\text{trap}}$  = Average mercury concentration measured using the sorbent trap during the week that includes the compliance performance test ( $\mu\text{g}/\text{m}^3$ ).

EL = Emission standard for the affected sources (lb/ton concentrate)

CT = Compliance test results for the affected source (lb/ton concentrate)

- (2) Sample and analyze the exhaust stream from the carbon adsorber (or carbon bed) for mercury at least monthly using Method 30B. When the mercury concentration reaches 75 percent of the operating limit, begin weekly sampling and analysis. When the mercury concentration reaches 90 percent of the operating limit, replace the carbon in the carbon adsorber within 30 days. If the mercury concentration exceeds the operating limit, change the carbon in the carbon adsorber within 30 days and report the deviation to the NBAPC (40 CFR 63.11647(f)(1)(ii)).





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**Permit No. AP1041-2805**

### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section VI. Mercury Emission Standards (continued)**

**A. NESHAP for the Gold Mine Ore Processing and Production Area Source Category – 40 CFR Part 63, Subpart EEEEEEE  
(40 CFR 63.11640 et. seq.) – Carbon Processes with Retorts (continued)**

**10. Carbon Adsorber Compliance Monitoring (40 CFR 63.11647(f))(continued)**

- b. Conduct an initial sampling of the carbon in the carbon bed for mercury 90 days after the replacement of the carbon. A representative sample must be collected from the inlet of the bed and the exit of the bed and analyzed using SW-846 Method 7471B (see 40 CFR 63.14). The depth to which the sampler is inserted must be recorded. The average carbon loading is calculated from the inlet and outlet measurements. Sampling and analysis of the carbon bed for mercury must be performed quarterly thereafter. When the carbon loading reaches 50 percent of the design capacity of the carbon, monthly sampling must be performed until 90 percent of the carbon loading capacity is reached. The carbon must be removed and replaced with fresh carbon no later than 30 days after reaching 90 percent of capacity. For carbon designs where there may be multiple carbon columns or beds, a representative sample may be collected from the first and last column or bed instead of the inlet or outlet. If the carbon loading exceeds the design capacity of the carbon, change the carbon within 30 days and report the deviation to the NBAPC (40 CFR 63.11647(f)(2)).

**11. Carbon Adsorber Gas Temperature Monitoring 40 CFR 63.11647(g)**

You (Permittee) must monitor gas stream temperature at the inlet to the carbon adsorber for each process unit (i.e. carbon kiln, melt furnace, retort, etc) equipped with a carbon adsorber or carbon bed. Establish a maximum value for the inlet temperature either during the annual performance test, according to the manufacturer's specifications, or as approved by the NBAPC. If you choose to establish the temperature operating limit during the performance test, establish the temperature operating limit based on either the highest reading during the test or at 10 °F higher than the average temperature measured during the performance test. Monitor the inlet temperature once per shift. If an inlet temperature exceeds the temperature operating limit, you must take corrective actions to get the temperature back within the parameter operating limit within 48 hours. If the exceedance persists, within 144 hours of the exceedance, you must sample and analyze the exhaust stream from the carbon adsorber using Method 30B and compare to an operating limit, as determined in A.10.a.(1) of this section, or you must conduct carbon sampling pursuant to A.10.b. of this section. If the concentration measured with Method 30B is below 90 percent of the operating limit or the carbon sampling results are below 90 percent of the carbon loading capacity, you may set a new temperature operating limit 10 °F above the previous operating limit or at an alternative level approved by the NBAPC. If the concentration is above 90 percent of the operating limit or above 90 percent of the carbon loading capacity you must change the carbon in the bed within 30 days and report the event to the NBAPC, and reestablish an appropriate maximum temperature limit based on approval of the NBAPC.

**12. Reestablishing Operating Limits 40 CFR 63.11647(i)**

You (Permittee) may conduct additional compliance tests according to the procedures in A.4. of this section and reestablish the operating limits required in A.10. and A.11. of this section at any time. You must submit a request to the NBAPC for approval to reestablish the operating limits. In the request, you must demonstrate that the proposed change to the operating limit detects changes in levels of mercury emission control. An approved change to the operating limit under this paragraph only applies until a new operating limit is established during the next annual compliance test.

**13. Notification, Reporting, Recordkeeping (40 CFR 63.11648)**

- a. You (Permittee) must submit the Initial Notification required by 40 CFR 63.9(b)(2) no later than 120 calendar days after the date of publication of the final rule in the Federal Register or within 120 days after the source becomes subject to the standard. The Initial Notification must include the information specified in 40 CFR 63.9(b)(2)(i) through (b)(2)(iv). (40 CFR 63.11648(a))
- b. You (Permittee) must submit an initial Notification of Compliance Status as required by 40 CFR 63.9(h). (40 CFR 63.11648(b))
- c. If a deviation occurs during a semiannual reporting period, you (Permittee) must submit a deviation report to the NBAPC according to the requirements below (40 CFR 63.11648(c)):
- (1) The first reporting period covers the period beginning on the compliance date specified in A.2. of this section and ending on June 30 or December 31, whichever date comes first after your compliance date. Each subsequent reporting period covers the semiannual period from January 1 through June 30 or from July 1 through December 31. Your deviation report must be postmarked or delivered no later than July 31 or January 31, whichever date comes first after the end of the semiannual reporting period.
  - (2) A deviation report must include the following information: Company Name and Address; Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy and completeness of the content of the report; Date the report and beginning and ending dates of the reporting period; and identification of the affected source, the pollutant being monitored, applicable requirement, description of deviation, and corrective action taken.
- d. If you (Permittee) had a malfunction during the reporting period, the compliance report required in A.13.c. of this section must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with A.9. of this section, including actions taken to correct a malfunction (40 CFR 63.11648(d)).



## BUREAU OF AIR POLLUTION CONTROL

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### CLASS I OPERATING PERMIT TO CONSTRUCT

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

#### **Section VI. Mercury Emission Standards (continued)**

**A. NESHA for the Gold Mine Ore Processing and Production Area Source Category – 40 CFR Part 63, Subpart EEEEEEE  
(40 CFR 63.11640 et. seq.) – Carbon Processes with Retorts (continued)**

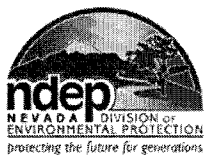
**13. Notification, Reporting, Recordkeeping (40 CFR 63.11648)(continued)**

- e. You (Permittee) must keep records specified below. The form and maintenance of records must be consistent with the requirements in 40 CFR 63.10(b)(1) of the General Provisions (40 CFR 63.11648(e)).
  - (1) As required in 40 CFR 63.10(b)(2)(xiv), you (Permittee) must keep a copy of each notification that you submitted to comply with this subpart and all documentation supporting any Initial Notification, Notification of Compliance Status, and semiannual compliance certifications that you submitted.
  - (2) You (Permittee) must keep records of all performance tests, measurements, monitoring data, and corrective actions and the information identified in A.13.c.(2) of this section for each corrective action: The date, place, and time of the monitoring event requiring corrective action; Technique or method used for monitoring; Operating conditions during the activity; Results, including the date, time, and duration of the period from the time the monitoring indicated a problem to the time that monitoring indicated proper operation; and maintenance or corrective action taken (if applicable).
  - (3) You (Permittee) must keep records of operating hours for each process, as required in A.7.a. of this section, and records of the monthly quantity of concentrate processed or produced, as required in A.8. of this section.
- f. Records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). As specified in 40 CFR 63.10(b)(1), you (Permittee) must keep each record for 5 years following the date of each recorded action. You must keep each record onsite for at least 2 years after the date of each recorded action according to 40 CFR 63.10(b)(1). You may keep the records offsite for the remaining 3 years (40 CFR 63.11648(f)).
- g. After December 31, 2011, within 60 days after the date of completing each performance evaluation conducted to demonstrate compliance with this subpart, the owner or operator of the affected facility must submit the test data to EPA by entering the data electronically into EPA's WebFIRE data base through EPA's Central Data Exchange. The owner or operator of an affected facility shall enter the test data into EPA's data base using the Electronic Reporting Tool or other compatible electronic spreadsheet. Only performance evaluation data collected using methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database (40 CFR 63.11648(g)).

**14. Reporting NAC 445B.3365**

Permittee shall furnish the Director a written report of the results of the compliance determinations required in A.5. and A.6. of this section. The written report of the compliance determinations should be submitted to the Director within 60 days after completing the performance tests required in A.4. of this section.

\*\*\*\*\*End of Mercury Emission Standards\*\*\*\*\*



**BUREAU OF AIR POLLUTION CONTROL**

**Facility ID No. A0005**

**Permit No. AP1041-2805**

**CLASS I OPERATING PERMIT TO CONSTRUCT**

**Issued to:** Barrick Goldstrike Mines, Inc. (as Permittee)

**Section VII. Emission Caps**

**A. N/A**

**\*\*\*\*\*End of Emission Caps\*\*\*\*\***



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#### Section VIII. Surface Area Disturbance Conditions

A. Dust Control Plan (NRS 445B.230.6)

The permittee may not cause or permit the construction, repair, or demolition work, or the use of unpaved or untreated areas without applying all such measures as may be required by the Director to prevent particulate matter from becoming airborne.

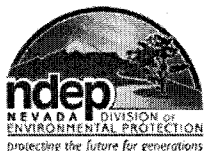
B. The permittee will control fugitive dust in accordance with the dust control plan entitled "Surface Area Disturbance Permit Fugitive Dust Control Plan", as submitted on May 4, 2007.

C. NAC 445B.22037

Fugitive Dust

1. The permittee may not cause or permit the handling, transporting, or storing of any material in a manner which allows or may allow controllable particulate matter to become airborne.
2. Except as otherwise provided in subsection 4, the permittee may not cause or permit the construction, repair, demolition, or use of unpaved or untreated areas without first putting into effect an ongoing program using the best practical methods to prevent particulate matter from becoming airborne. As used in this subsection, "best practical methods" includes, but is not limited to, paving, chemical stabilization, watering, phased construction, and revegetation.
3. Except as provided in subsection 4, the permittee may not disturb or cover 5 acres or more of land or its topsoil until the permittee has obtained an Permit to construct for surface area disturbance to clear, excavate, or level the land or to deposit any foreign material to fill or cover the land.
4. The provisions of subsections 2 and 3 do not apply to:
  - a. Agricultural activities occurring on agricultural land; or
  - b. Surface disturbances authorized by a permit issued pursuant to NRS 519A.180 which occur on land which is not less than 5 acres or more than 20 acres.

\*\*\*\*\*End of Surface Area Disturbance Conditions\*\*\*\*\*



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#### Section IX. Amendments

Month, Day 2013

- Remove Systems 125A, 125B, 126A, and 126B as per request by Barrick Goldstrike.
- Revise (increase) SO<sub>2</sub> emission limits for System 67. Amend descriptive stack parameters for System 67. Add SO<sub>2</sub> scrubber as one of the controls for System 67.
- Revise (decrease) SO<sub>2</sub> emission limits for System 68. Change control device descriptors to match that described by Barrick in a new emission unit application form for System 68.
- Add System 141A – TKI 12 MMBtu Boiler (Natural Gas) and System 141B – TKI 12 MMBtu Boiler (Propane, Alt. Scen.).
- Add System 142A – TS Regen Heater (7 MMBtu, Natural Gas) and System 142B – TS Regen Heater (7 MMBtu, Propane, Alt. Scen.).
- Add System 143A – Regen Heater 1 (5 MMBtu, Natural Gas) and System 143B – Regen Heater 1 (5 MMBtu, Propane, Alt. Scen.).
- Add System 144 – RIL Emergency Generator (3,634 HP – 2,500 kW).
- Add Insignificant Activities IA1.001 and IA1.002, which were approved by the Director on October 26, 2011 (Air Case 12AP0159).
- Add Electrowinning Water Heater (2.5 MMBtu) as Insignificant Activity IA1.004.
- Remove the incorrect NAC citation 445B.346.2, because it applies only to Class II sources.
- Amend the NAC citations throughout the permit for reporting, so as to include compliance with NAC 445B.001 – 445B.3689, inclusive.
- Correct the emission limits for System 130 by combining the hourly and annual H<sub>2</sub>S emissions for S2.336-S2.338 and for S2.339-S2.340. The total hourly and annual emission limits for the system as a whole are not changing.

#### **This Permit to construct:**

1. Is non-transferable. (NAC 445B.287)
2. Will be posted conspicuously at or near the stationary source. (NAC 445B.318)
3. Will expire if construction is not commenced within 18 months after the date of issuance or if construction of the facility is delayed for 18 months after initiated. (NAC 445B.3366)
4. Will expire if a complete application for a Class I operating permit or modification of an existing Class I operating permit is not submitted within 12 months after the initial start-up. (NAC 445B.3366)
5. Any party aggrieved by the Department's decision to issue this permit may appeal to the State Environmental Commission (SEC) within ten days after the date of notice of the Department's action. (NRS 445B.340)
6. The Permittee shall submit a complete Class I application within 12 months after the notification date of commencement of operation as required in this permit to construct. (NAC 445B.3361)

Signature

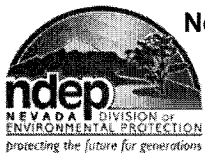
Issued by:

Jeffrey Kinder, P.E.  
Supervisor, Permitting Branch  
Bureau of Air Pollution Control

Phone:

(775) 687-9475

Date: DRAFT



## BUREAU OF AIR POLLUTION CONTROL

### CLASS I NON-PERMIT EQUIPMENT LIST

Appended to Barrick Goldstrike #A0005 Permit #AP1041-2805 (Class I OPTC)

Emission Unit #	Emission Unit Description
IA1.001	Resin-in-Leach (RIL) and Elution Process Tanks, Screens, and Hoppers
IA1.002	Thiosulfate (TS) Storage Tanks, Reactors, Day Tanks, and Knock-Out Vessels
IA1.003	Promoter (VIL) Storage Tank (<40,000 gallons, <0.6 psia)
IA1.004	Electrowinning Water Heater 2.5 MMBtu (Propane or Natural Gas)

**Note:** *The equipments listed on this attachment are subject to all applicable requirements of the NAC and ASIP.*